

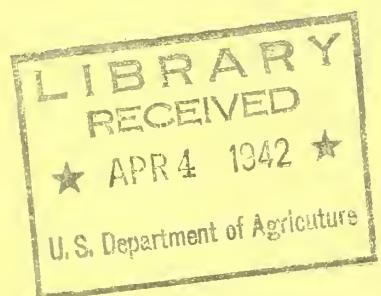
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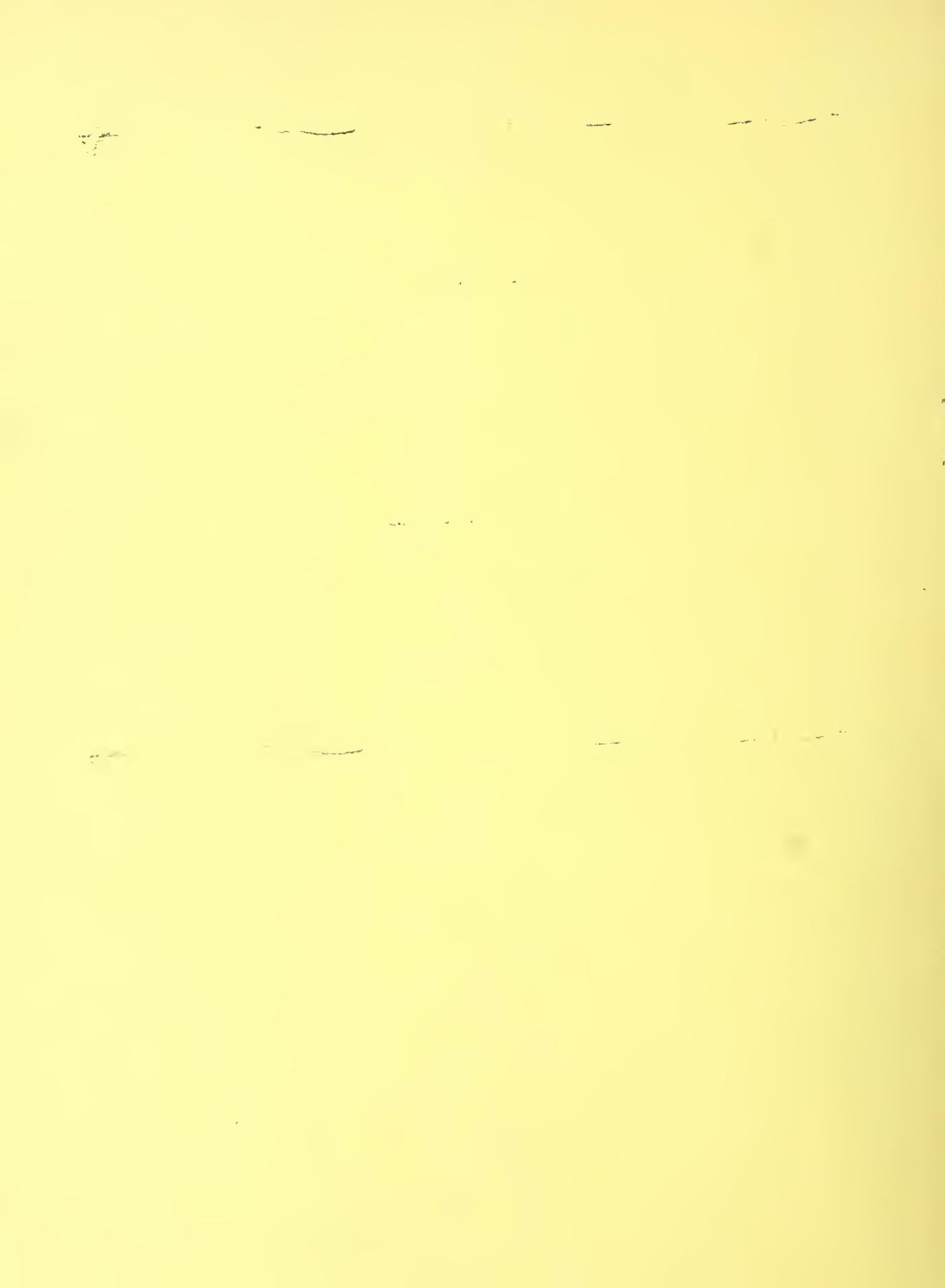
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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

FARMING ADJUSTMENTS IN THE CORN BILT AND LAKE STATES
TO MEET DEFENSE NEEDS AND POST-WAR PROBLEMS



Milwaukee, Wisconsin
November, 1941



PREFACE

Regional studies of farming adjustments to meet defense needs were begun several months before the launching of the "Food for Freedom" campaign. The first preliminary report was issued on June 16, 1941. It contained data on agricultural production in 1939 and estimates of expected production in 1943-45 with a set of assumed prices. This preliminary report was revised (September 1) in the light of later developments and broadened in scope to include estimates of desirable production of crops and livestock in 1943-45 and the long-time or post-war period. These preliminary reports were used in connection with the determination of State production goals for 1942.

This publication is an outgrowth of these previously unpublished reports. It contains a number of revisions and corrections of the data previously presented. The estimates represent an interpretation of recent changes in production and of current studies of the production possibilities in the two regions by a committee in each State composed of representatives of the Bureau of Agricultural Economics and the State Agricultural College.

The approach used in arriving at the estimates of future production was to build up totals for type-of-farming areas from prospective production on groups of individual farms having similar production opportunities. Type-of-farming area totals were then combined into totals for States, adjustment areas, and for the region.

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FARMING ADJUSTMENTS IN THE CORN BELT AND LAKE STATES
TO MEET DEFENSE NEEDS AND POST-WAR PROBLEMS 1/

FOOD FOR DEFENSE

Large increases in production of several kinds of foodstuffs are needed to meet domestic demand and Lease-Lend requirements during the war emergency. Especially large are the additional quantities needed of milk, cheese, eggs, meat, vegetables, fats and oils.

Because of the nature of these needed products, the greater part of the absolute increases must inevitably come from the Corn Belt and Lake States regions during the war period. Here, in the region of greatest feed production, meats, lard, poultry, and dairy products can be most economically produced. Here, too, most of the necessary processing plants are located. It is also in these regions that mistakes in policy will have most serious consequences, both during the war and afterward. The problem, therefore, is to ascertain what changes in farming may be necessary to enable farmers to produce sufficient food and to take advantage of the short-time opportunities of the defense program to raise their incomes without seriously jeopardizing their situations during the after-the-war period when desirable long-time adjustments will again come to the foreground. The nature of the adjustments made during the defense period will determine to a considerable extent the severity of the impact of the adverse conditions which must be faced during the post-war period.

In recent years farm programs, notably the AAA programs, have brought about a shifting of crops and the performance of additional soil-conserving practices, which have reduced soil erosion and improved soil fertility. These recent gains should be conserved, insofar as possible, by making full utilization of roughage feeds for livestock production, by expanding acreage of soybeans and of feed grains where the sacrifice in soil conservation will be least, and by accompanying any such expansion in acreage with still greater performance of soil-building practices. A considerable expansion in feed production can be accomplished by only a moderate expansion in acreage of feed grains if accompanied by widespread use of approved soil building practices such as the use of lime, phosphate, and green manure crops.

The programs have also resulted in an accumulation of reserve supplies of feed grains which can be used to increase livestock production rapidly, if such reserves are properly distributed among

1/ Prepared by the North Central Regional Office of the Bureau of Agricultural Economics with the assistance of members of the staffs of the agricultural colleges in Minnesota, Iowa, Missouri, Illinois, Wisconsin, Michigan, Indiana, and Ohio.

farmers. There is considerable elasticity in the use of existing and prospective feed supplies for the production of more hogs by shifting corn from other classes of livestock. Moreover, feed supplies can be made to go much farther in livestock production by giving more attention to feeding and sanitation practices.

The dairy areas of the Lake States are faced with serious dislocations of marketing outlets for their milk as well as with problems of expanding output. The emergency demands are principally for cheese and evaporated and dried milk products. These demands must be filled, partially at least, at the expense of butter. How to make maximum use of existing processing plants for the needed products and at the same time permit survival of creameries that are faced with a declining volume of butterfat is a problem that must be solved if serious consequences in the post-war period are to be avoided. Present governmental prices and purchasing programs may have to be modified to meet this situation more adequately.

CONDITIONS AND ASSUMPTIONS

In considering a program of production adjustments in the Corn Belt and Lake States to meet defense needs attention must be centered on three sets of conditions which will exist as the defense program develops and as it eventually is supplanted by peace-time activities. These three sets of conditions may be briefly stated as follows:

(1) A continuing period that will last as long as emergency defense activities are necessary, in which the principal consideration will be to insure the production of foods, fibers, and other raw materials of an agricultural nature, and furnishing an appropriate share of the man power needed by the defense program.

(2) A period already begun that will continue as long as war activities last, which probably will be characterized by increasing demand for foods consumed in the domestic market and for those needed for export, increasing chances for surplus rural population to work in industry, and a rising general price level.

(3) A post-war period which, unless courageous preventive measures are taken, will be characterized by falling prices, especially severe for agricultural products; widespread unemployment; and a situation in which fixed costs and long-time debts, particularly those contracted on a war-time price level, are met with difficulty.

Thus the production adjustment problems which farmers face in the future fall naturally into a period of national defense and the period of post-war readjustment.

Farmers will continue to respond to their economic environment. In a region where simultaneous increases in production of several products such as pork, beef, milk, poultry, eggs, and canning crops are required, the farmer makes his choice on what he considers to be his best alternative. Relative prices are an influential factor in making this choice. One of the purposes of the study here reported is to estimate the production changes which farmers may be expected to make in the period 1943-45 if a given assumed price situation prevails.

Our Government and society generally are interested in obtaining the products needed in the quantities required. Likewise, we are interested in having the products produced in the areas and under conditions best suited to obtaining them with a minimum of maladjustment over a longer term period. Hence, the report includes estimates of the desirable production in each of the areas of these regions during the 1943-45 period. Differences between the two estimates indicate a tendency toward maladjusted production.

Finally estimates are given for the long-term desirable production in each of the areas. Differences between the short-term expected response and long-term desirable response provide an indication of the seriousness of the adjustment problem that will need to be faced in the post-war period.

It should be borne in mind that the "desirable" estimates for 1943-45 are not necessarily "all-out" production estimates. There can be no question but that the farmers of the Corn Belt and Lake States will produce products in any quantities needed up to the maximum capacity of their resources if the need is shown and adequate incentives are provided. Without doubt this quantity is far in excess of the estimated desirable production. The desirable estimates are useful when considered in relation to expected production and to each other for different areas.

For the purposes of this study, 1943-45 farm prices were estimated on the basis of the following general assumptions: (1) Continuation of war with an all-out defense program; or, if the war should end, a world rehabilitation program having as great an effect on industrial activity in the United States as would the other condition specified; (2) full utilization of all available nonfarm labor, except 1 million for turn-over and 1.5 million for military purposes; (3) increases in capacity to produce raw and semifinished materials in whatever degree would be necessary to bring about such full labor utilization; (4) no increase in taxation sufficient to absorb increases in national income payments to individuals which would occur under the resulting increase in industrial activity; and (5) continuation of present agricultural programs, and loans on basic commodities at 85 percent of parity.^{2/}

^{2/} Indexes of the assumed prices of the principal farm products in this region are presented in table 10, page 46.

The estimates set forth in this report represent the judgment of a committee in each State in the two regions. These State committees were composed of members of the staffs of the State Colleges and of the Bureau of Agricultural Economics. In making its estimates of "expected" production the committees took into consideration the following factors:

- (1) The assumed prices for the 1943-45 period
- (2) The assumptions upon which these prices are based
- (3) That the agricultural program will remain substantially as it was being operated at the time the committees met (June 1941)
- (4) That costs will vary in a way determined by the committees
- (5) Past trends that have prevailed in production of each of the farming areas
- (6) Normal yields (based on AMS estimates of yields in recent years and adjusted for probable acreage, weather and cultural practices in 1943-45)
- (7) The present alternative opportunities with existing relative prices, and the new alternatives with the 1943-45 relative price assumptions
- (8) Possibilities of mechanization
- (9) Possibilities of a labor shortage
- (10) That profits and governmental programs will be a major regulator of what will be produced and where it will be produced.

The factors considered in making the short-time desirable estimates differed from these in two main respects: (1) That such things as soil conservation and prevention of maladjustments be taken into account and (2) that present governmental programs can be modified to meet new needs.

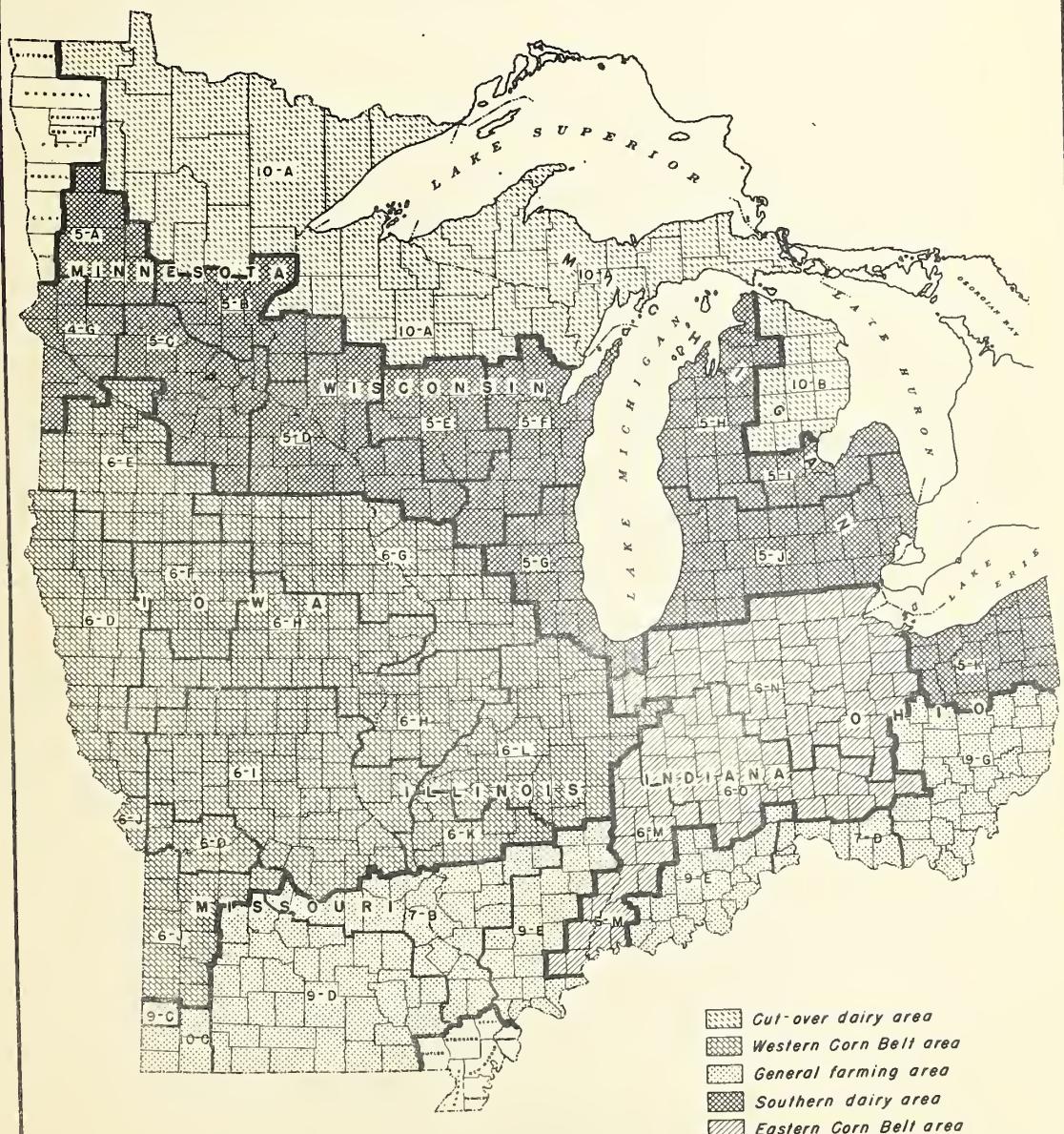
The long-time desirable estimates are taken largely from the 1935 adjustment study with such modifications as the committees were prepared to make.

ESTIMATES OF EXPECTED PRODUCTION AND DESIRABLE PRODUCTION IN 1943-45 WITH ASSUMED PRICES, AND LONG-TIME DESIRABLE PRODUCTION

The Corn Belt Region

The problem of production adjustments in the Corn Belt (fig. 1) is complicated by many forces. On the one hand the fertile soil, favorable climate, market situation, well-developed processing organization, and an alert group of farmers, make possible a tremendous increase in production to meet defense needs. On the other

CORN BELT AND LAKE STATES BROAD ADJUSTMENT AREAS



REGION THREE

hand, the simultaneous production of additional quantities of several products, each of which may be a near alternative to the other in the various parts of the region, suggests the necessity for careful study of production needs on a national scale and the establishment of regional goals ^{3/} implemented by proper price relationships of products needed, together with a Government program calculated to obtain these products in their required quantities. Close attention must be given to the competitive relationships of the products in each sub-area in the region so that maladjustments may be minimized.

Expected Production in 1943-45

Expected adjustments in the Corn Belt (fig. 1) under the assumed price structure will be in the direction of increased production of livestock and livestock products. The assumed price advances over 1935-39 averages, are greater for livestock than for the cash crops. And as these prices are about equally favorable to all classes of livestock, the greatest increases in production will be in those products which can be expanded most rapidly. Farmers' response in pork production to higher prices is more rapid than for other livestock products. Therefore, the greatest increase is expected in hogs. The 1943-45 production of hogs in the Corn Belt is expected to be 19 percent over the 1939 production. In comparison, beef production (cattle and calves) is expected to increase 13 percent, sheep and lambs 6 percent, milk 7 percent, poultry 7 percent, and eggs 12 percent over the respective production in 1939 (table 1).

The increase in hog production will come about in several different ways. Those parts of the Corn Belt where hog numbers are below normal are expected to increase greatly the number raised and all areas are expected to feed their hogs to heavier weights. Other areas may buy feeder pigs. Farmers in areas where recent production has been below normal have the facilities for considerable expansion without adding to their capital investment. Heavier feeding in all areas will be stimulated by attractive prices. A quick response may be expected where large quantities of corn have been sealed. It is in those areas that the greatest total expansion in hog production can occur. Parts of the region that normally raise relatively few fall pigs are expected to increase the number of fall litters. The technique of hog raising has improved since the last war, particularly in sanitation and use of pasture, self-feeders, and movable hog houses. Hogs are now produced with greater efficiency in feeding and with less labor.

^{3/} Since this manuscript was first written National, State, and County production or marketing goals for 1942 have been established.

Table 1.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

CORN BELT REGION

Item	Unit	1939	1943-45 Estimated			Percentage change from 1939	Percentage change (tentative)
			Actual (000)	Expected (000)	Desirable (000)		
Number of farms	No.	767	763	753	-1	-2	748 -2
All land in farms	Acres	109,222	108,793	108,792	0	0	107,989 -1
Cropland, including:							
plowable pasture	Acres	86,779	86,418	86,423	0	0	86,065 -1
Wheat	Acres 1/	5,890	5,539	5,355	-6	-9	5,312 -10
Rye	Acres 2/	106,446	94,075	91,798	-12	-14	90,826 -15
Oats, for grain	Acres 1/	12,658	12,361	11,333	-2	-2	381 -3
Flaxseed	Acres 2/	365,228	414,730	366,477	+14	+8	5,004 -5
Barley	Acres 1/	1,368	1,283	1,516	-6	+11	25,627 -4
Beans (dry edible)	Acres 2/	6,217	7,176	3,700	+15	-40	1,610 +5
Soybeans (for beans)	Acres 2/	3,576	4,669	4,576	+31	+28	3/ -18
Hay, all excluding sorghums	Tons	10,833	11,209	11,158	+3	+3	12,350 +14
		14,721	15,067	15,149	+2	+3	17,035 +16

Table 1.- Estimates expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

CORN BELT REGION

Item	Unit	1939 Actual (000)	1943-45 Estimated acreage or number and production	1943-45 Estimated acreage or number and production	Expected Desirable (000)	Desirable (000)	Percentage change from 1939		Total (000)	Percentage change
							Desirable	Expected		
Hay, alfalfa	Acres ^{2/}	2,510	3,045	3,236	421	429	4,071	4,62	4,62	4,65
	Tons	5,071	6,384	6,691	424	432	8,559	8,559	8,559	8,559
Sorghums, all ex- cept syrup	Acres ^{2/}	335	334	317	0	-5	309	-8	309	-8
Sugar beets	Acres ^{2/}	75	77	77	0	0	96	425	96	425
Potatoes	Tons	605	624	624	0	0	728	416	728	416
	Acres ^{1/}	205	209	209	4 2	4 2	259	426	259	426
	:Bu.	20,634	21,056	21,221	4 5	4 6	25,615	428	25,615	428
Feed grains ^{4/}	Tons	44,329	58,869	40,829	-12	-8	37,356	-16	37,356	-16
Beef and veal pro- duced - live wt.	Lbs.	3,256,004	3,683,405	3,728,961	413	414	3,711,198	414	3,711,198	414
Pork produced - live weight	Lbs.	8,032,636	9,538,144	9,807,977	419	422	7,935,785	-1	7,935,785	-1
Lamb and mutton pro- duced - live wt.	Lbs.	507,357	325,637	327,957	4 6	4 7	355,084	416	355,084	416
Milk cows, 2-yr.old: and over Jan. 1	No.	4,141	4,310	4,228	4 4	4 5	4,524	4 9	4,524	4 9
Milk produced	Lbs.	18,749,000	20,083,000	20,315,000	4 7	4 8	21,101,000	415	21,101,000	415
Wool shorn	Lbs.	35,803	39,238	39,635	4 7	4 8	42,337	415	42,337	415
Eggs produced	Doz.	655,577	732,395	743,485	412	413	705,736	4 8	705,736	4 8
Chickens raised	No.	136,801	146,935	149,794	4 7	4 9	146,492	4 7	146,492	4 7
Chickens produced - live weight	Lbs.	588,645	630,156	642,374	4 7	4 9	628,221	4 7	628,221	4 7

^{1/} Planted.

^{2/} Harvested.

^{3/} Less than 500 acres.

^{4/} Total of corn, oats, and barley.

With more favorable prices farmers who normally raise and feed cattle will increase beef production as rapidly as they can. The increase may come through longer feeding, putting more finish on cull breeding stock, and by feeding out more calves which are now sold for veal. In addition, cattle numbers are increasing and unless heavy marketings occur, breeding stock should reach a peak some time in 1943-45. This time the peak in the beef cycle may be sustained somewhat longer than usual. The effects of the conservation programs, which have encouraged cattle raising in Corn Belt areas that formerly shipped in feeders, may soon be felt. In addition, commercial feeders are expected to increase their purchases of western feeder-calves and feeder-steers.

The long-term upward trend in sheep numbers in the Corn Belt may be partially arrested during the 1943-45 period because of the favorable prices expected for other livestock. Many farmers in recent years have gone into sheep, partly because profits in hogs were low and partly to use the additional hay and pasture they have acquired through better crop rotations. The 6 percent increase expected in 1943-45 over 1939 is less than the annual increase in recent years.

Milk production in 1941 was already equal to or greater than the expected 6 percent increase in 1943-45 over 1939, owing to better than normal pasture conditions and hay crops of the past two years. In fact, pasture conditions generally have been above normal for the last five years. Although some farmers with dual-purpose cattle probably will milk fewer cows, with many such farmers the number milked is small, and they are not expected to reduce milk production. Any increase in milk production in many parts of the Corn Belt region undoubtedly will result from better care and high quality roughage rather than from heavier grain feeding. Grains will be reserved as much as possible for hogs and beef cattle. In local fluid milk sheds throughout the Corn Belt, dairymen will increase production to meet a strengthened demand resulting from greater consumer buying power.

Poultry and egg production are expected to increase in response to more favorable prices than have prevailed in several years. In the five major Corn Belt States the average number of chickens on farms from 1938 to 1940 was about 10 percent below the peak in 1932 and 1933. A return to former levels will not require a large added investment in facilities. Poultry in the Corn Belt, however, is typically a family enterprise, and because family labor will be required to a greater than usual extent in general farm work, only moderate increase in production may be expected.

Adjustments in Corn Belt cropping systems are expected to be more moderate than the adjustments in livestock production. The State committees working on these estimates differed in their judgments as to whether farmers would plant within their special crop

allotments in the Agricultural Conservation Program, under the assumed prices in 1943-45. In four of the five States in the region, the committees believed farmers would plant within their allotments rather than give up their payments (assumed equal to 1941). Any changes in crop acreages would therefore be moderate. A shift from cash to feed crops was anticipated. In Illinois it was believed more farmers would overplant their corn allotments, and a 6 percent increase in corn acreage was estimated. In Missouri, farmers not now participating in the program are expected to increase their corn acreage, resulting in a slight increase for the State. For the Corn Belt region the estimated increase in acreage is 1 percent.

As long as livestock prices are relatively favorable, Corn Belt farmers are expected to shift land from cash crops such as wheat, flax, and rye to feed crops such as oats and barley. It is estimated that the wheat acreage in the 1943-45 period will be 6 percent below the 1939 acreage in the Corn Belt region. Most of the flax grown in the Corn Belt is in northwestern Iowa and southwestern Minnesota. The acreage has increased rapidly in recent years mainly because it was classified by the AAA as a non-depleting crop when accompanied by grass seedings. Even with a considerable shift out of flax to feed crops, the expected acreage of flax in 1943-45 will be about 39 percent above 1939. The 1943-45 acreage of rye is expected to be 2 percent below the 1939 acreage.

The effect of these shifts on production of feed grains is indicated in table 1. It must be remembered that 1939 was a particularly favorable year for corn and somewhat unfavorable for small grains and that in making estimates for production in 1943-45, normal yields have been used. With this limitation to a direct comparison, the production of feed grains in 1943-45 is expected to be 12 percent below 1939.

The total hay acreage is expected to be 11.2 million acres in 1943-45 for the Corn Belt region, or about 3 percent above the 1939 acreage, but somewhat below the 1941 acreage. The supply of hay probably will be adequate because the acreage has been relatively high in recent years, particularly in 1940 and 1941. With alfalfa acreage 21 percent above 1939, the quality of the total hay crop will also be improved.

These are the production changes that are expected to occur under the assumptions discussed earlier and under the assumed prices. If the quantities of various livestock and livestock products which are estimated as forthcoming are not enough for the defense needs or in the proportions desired, higher prices may have to be paid or inducements other than price may have to be introduced in order that production meet wartime needs.

Desirable Production in 1943-45

After the first preliminary estimates had been summarized there was some indication that the estimated "expected" production in many areas did not represent the most economic adjustment under the assumed conditions. Later the State committees were asked to estimate the desirable changes in production, by subareas, that farmers could and should make within the framework of the assumptions set forth on page 4 as a maximum contribution toward the national defense effort and not disrupt too seriously the setting for longer-time post-war readjustments and not sacrifice the gains already made in soil conservation. These production estimates are shown in column 3 of table 1 for the Corn Belt region.

In all five States in the region the corn acreage estimated as desirable in 1943-45 would exceed the acreage that could be grown within 1941 corn acreage allotments. The desirable increase would be 8 percent over 1939 as compared to an expected or probable increase of 1 percent. Land would be diverted to corn from soybeans, flax, oats, and wheat. The largest increases in corn acreage are suggested in the cash corn areas of Iowa and Illinois, which are the areas having the best level land.

An increase in corn acreage and production over that expected in 1943-45 would permit greater than the expected increases in livestock production. The desirable production of beef in the 1943-45 period would be a 14 percent increase over 1939 as compared with an expected increase of 13 percent; in hogs, a 22 percent increase as compared with a 19 percent increase. The desirable increases of other livestock products are proportionately greater than the expected increases.

Long-Time Desirable Production

Some of the desirable production adjustments for the 1943-45 period differ from the desirable long-time adjustments; but most of them are in line with the long-time desirable situation. It would be desirable to increase corn acreage in the defense period by 8 percent over 1939, but to decrease it by 4 percent in the long-time. The short-time adjustments in the case of oats, wheat, and flax are all in line with long-time adjustments involving a decrease in acreage. The short-time adjustments are also in line with the long-time in the case of barley and hay, but these call for increases. Soybeans (for beans) should be increased in 1943-45, but decreased as a long-time adjustment.

The post-war adjustments in livestock in the Corn Belt region are in accord with the short-time, with the exception of hogs. Increases should occur in cattle, both dairy and beef, and in sheep.

Poultry and egg production should increase from a relatively low point in 1939. Hogs should decrease slightly from 1939, a year in which hog production was relatively high.

Feed and Livestock Balance

The relationship between estimated feed grain production and estimated livestock production in 1943-45 was compared with the relationship in two previous periods: 1928-32 when there was no accumulation of corn, and 1938-40, when corn was sealed for Government loans.

Production of feed grains was slightly higher in 1938-40 than in 1928-32 (table 2), but the carry-over of corn on April 1, 1941 (an accumulation from 1938-39, and 1940) was about 13,500,000 tons in excess of the 1928-32 carry-over. The estimated use in 1938-40 was about 39,465,000 tons as compared to 43,465,000 tons in 1928-32. (This includes both farm and commercial use, but compared to farm use, commercial use is insignificant.) But there were fewer animal units on farms in 1938-40 than in the earlier period, so that the ratio of feed grain used to animal units was approximately the same in the two periods (1.018 tons per animal unit in 1938-40 and 1.055 tons per animal unit in 1928-32). The difference in the rates of grain feeding in the two periods may be partly due to a difference in pasture conditions and hay production which were above normal in the 1938-40 period. Thus less grain was needed in 1938-40 in the rations fed some classes of livestock.

The estimated expected annual production of feed grains in 1943-45 amounts to 0.899 per animal unit, which is roughly 21 percent below the ratio for the 1938-40 period. If one-third of the ever-normal granary of corn on April 1, 1941 were used each year in the 1943-45 period, 0.998 tons would be available per animal unit. That would be about 2 percent less than the amount used per animal unit in 1938-40. With only slightly greater efficiency in feeding, which may be expected while livestock prices are high, feed grain supplies probably would be adequate.

Estimates of desirable production of both feed grains and livestock in 1943-45 were higher than for expected production for the same period. The estimated desirable production of feed grains would amount to 0.926 tons per animal unit, which is approximately 18 percent below the ratio in the 1938-40 period. If one-third of the excess stocks of corn were used each year during the 1943-45 period, the annual supply of feed grains would be 1.024 tons per animal unit, which is roughly 1 percent above the ratio in the 1938-40 period.

If the estimated quantities of pork, beef, and dairy and poultry products are produced during 1943-45, the ever-normal granary of corn will be depleted unless larger acreages of feed grains are grown during the same period than here estimated or above normal yields are obtained from the estimated acreage.

Table 2-- Production of feed grains and hay, and number of animal units on farms, five Corn Belt States 1/

Item	Unit	1928-32		1938-40		1943-45	
		average	average	Expected	Desirable		
Feed grains:							
Production	: 1,000 tons	43,465	43,965	40,772	42,465		
Estimated use	: 1,000 tons	43,465	2/39,465	3/45,272	3/46,965		
Production per animal unit 4/	: Ton	1.055	1.135	.899	.926		
Use per animal unit 4/	: Ton	1.055	1.018	.998	1.024		
Ever normal granary of corn: 1,000 tons		---	13,500				
Hay:							
Total production	: 1,000 tons	17,668	19,924	18,955	19,326		
Production per animal unit 6/	: Ton	1.183	1.255	1.131	1.146		
Animal units:							
Grain-consuming 4/	: 1,000 units	7/41,216	8/38,749	9/45,354	9/45,862		
Hay-consuming 6/	: 1,000 units	7/14,937	8/15,872	9/16,763	9/16,860		

1/ Not the same as Corn Belt Region. See figure 1.

2/ Subtracting one-third of the excess corn stocks on April 1, 1941 from average production of feed grains, 1938-40.

3/ Assuming one-third of the excess corn stocks on April 1, 1941 is used during each of the three years.

4/ Grain-consuming animal units weighted as follows: milk cows, 1.00; other cattle, 0.51; hogs, 0.87; sheep, 0.04; horses and mules, 1.14; and poultry, 0.045.

5/ Carry-over April 1, 1941 in excess of average 1928-32.

6/ Hay and pasture consuming animal units weighted as follows: milk cows, 1.00; other cattle, 0.75; sheep, 0.12; horses and mules, 1.00.

7/ Livestock on farms, January 1, 1928-31, inclusive.

8/ Livestock on farms, January 1, 1938-41, inclusive.

9/ Estimated on basis of relationship between production of livestock and animal units in 1938-40 period.

The Western Corn Belt Adjustment Area 4/

The reduction in corn and the increase in hay acreages during recent years have been even greater in the western adjustment area than in the whole Corn Belt region. This has stimulated cattle and sheep raising, especially in the cash corn sub-areas. Corn yields have been higher, relative to normal, than in the whole region. Relatively more of the corn crop has been sealed, hence there are huge quantities in reserve. April 1, 1941 excess (above normal on that date) stocks of corn were about 54 percent of a normal crop in this area. Hog production has not kept pace with corn production, but has averaged in recent years (1938-40) about the same as in 1928-32. In contrast, hog production in the eastern adjustment area of the Corn Belt was about 20 percent above the 1928-32 average, in 1938-40. In some parts of the western adjustment area farmers have produced more hay than they could use in recent years because of above-normal yields. More legumes and less severe cropping have built up soil fertility. This setting presents an opportunity for a tremendous expansion in livestock production.

Expected changes in crop acreages in the western adjustment area are of the same type, but generally are greater in magnitude than in the whole region (tables 1 and 3). The acreages of wheat, oats, and barley are expected to decrease, whereas corn, flax, soybeans and hay will increase as farmers attempt to intensify livestock production. A comparison of the expected acreages in 1943-45 with 1939 acreages is shown in table 3.

The acreage adjustments that are deemed desirable in 1943-45 compared to what is expected would include: somewhat less wheat, oats, flax, and all hay, and somewhat more corn, barley, and soybeans.

The expected and desirable decreases in wheat, oats, and flax during the defense period are in accord with long-time adjustments which will require a reduction particularly in wheat. The short-time increase in corn acreage is counter to the long-time adjustment, but the acreage thought to be desirable in 1943-45 would be lower than the previous high of 1931, and the increase would occur in those areas best able to handle it without serious soil damage.

The expected increase in livestock and livestock products during 1943-45 is larger in the western adjustment area than in the whole Corn Belt region. The expected increase in hog production would be 23 percent, compared with 19 percent for the region. Beef production would be 15 percent higher compared with 13 percent for the whole region. Increases are over the 1939 production. The expected

4/ Including all of Iowa and parts of southwestern Minnesota, southwestern Wisconsin, the northern two-thirds of Illinois, a small part of western Indiana, and the northern half of Missouri (See fig. 1).

Table 3. - Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

WESTERN CORN BELT ADJUSTMENT AREA

Table 3. - Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

WESTERN CORN BELT ADJUSTMENT AREA

Item	Unit	1939	1943-45			Estimated acreage or number and production: from 1939	Percentage change from 1939	Desirable	Long-time desirable (tentative)
			Actual	Expected	Desirable			Expected:Desirable	
			(000)	(000)	(000)				
Sorghums, all except sirup	Acre ² /	331:	330:	313:	0	- 5	- 5	0	305:
Sugar beets	Acre ² /	16:	16:	16:	0	0	0	0	16:
Potatoes	Tons	154:	150:	150:	- 3	- 3	- 3	0	150:
Feed grains 3/	Bu.	121:	122:	122:	+ 1	+ 1	+ 1	0	132:
Feed grains 3/	Tons	11,468:	11,874:	11,839:	+ 4	+ 4	+ 4	0	12,972:
Beef and veal produced - live wt.	Lbs.	34,888:	30,791:	32,649:	-12	-12	- 6	0	413:
Pork produced - live weight	Lbs.	6,113,192:	7,495,564:	7,756,330:	+23	+23	+27	0	29,531:
Lamb and mutton produced - live wt.	Lbs.	214,077:	227,778:	230,062:	+ 6	+ 6	+ 7	0	253,651:
Milk cows, 2-yr. old and over Jan. 1	No.	3,021:	3,136:	3,158:	+ 4	+ 4	+ 5	0	3,320:
Milk produced	Lbs.	13,638,000:	14,701,000:	14,955,000:	+ 8	+ 8	+ 9	0	15,543,000:
Wool shorn	Lbs.	23,775:	25,260:	25,509:	+ 6	+ 6	+ 7	0	28,026:
Eggs produced	Doz.	456,753:	517,227:	522,131:	+13	+13	+14	0	477,702:
Chickens raised	No.	94,890:	101,664:	102,876:	+ 7	+ 7	+ 8	0	477,702:
Chickens produced - live weight	Lbs.	413,888:	443,295:	448,327:	+ 7	+ 7	+ 8	0	435,279:

1/ Planted.

2/ Harvested.

3/ Total of corn, oats, and barley.

increases in production of sheep, milk, poultry, and eggs in the western adjustment area are comparable with those for the whole region.

The indicated desirable increases are higher than the corresponding expected increases in livestock and livestock products in the western adjustment area. But as previously pointed out, these desirable increases in livestock cannot occur without the desirable adjustments in cropping system.

The committees believe that the desirable production of livestock in 1943-45 will not come about as a response to higher prices alone. It was suggested that appeals for greater production or the setting up of voluntary goals might be necessary to expand production that much, in so short a time.

If corn acreage allotments are revised upward in the better land areas during the defense period, it would be very desirable that farmers make more use of green manure crops and contour farming in order to hold as much as possible of the conservation gains already made. Such practices should be incorporated in any plan for the long-time readjustments.

The desirable adjustments in livestock production for the 1943-45 period are in line with the long-time adjustments except in the case of hogs, where the short-time production would greatly exceed that in the post-war period. But a temporary expansion in hogs will not create a difficult readjustment problem because few permanent and costly investments will be made. The long-time adjustment in beef production involves an even greater increase than will occur in the defense period. Such an adjustment would accompany the long-time increase in hay and pasture. The short-time increase in poultry and egg production is in line with the long-time adjustment, and involves a return to former levels of production.

The Eastern Corn Belt Adjustment Area 5/

The reduction in corn acreage and the increase in hay acreage during the last few years have been relatively smaller in the eastern Corn Belt than in the region as a whole. Yields of corn have not been as much above normal as in the whole region, and relatively less corn has been sealed in storage. Hog production in 1938-40 was 21 percent above the 1928-32 average as compared with 5 percent in the whole region. On April 1, 1941 relatively little corn was carried over (in excess of normal April 1 carry-over) as a result of 3 years

5/ Including most of Indiana and western half of Chic, plus 4 counties in southern Michigan; and excluding counties along the Chic River and a part of Indiana in the Chicago market milkshed (See fig. 1).

of sealing under the Agricultural Adjustment Act. The excess carry-over was equivalent to 4 percent of a normal crop in the eastern Corn Belt compared with 42 percent of a normal crop for the five Corn Belt States. Soils in this part of the Corn Belt are somewhat more subject to erosion, and there is less opportunity for expanding corn acreage than in the whole region.

In general, the changes expected in crop acreages, that is changes from 1939, are about the same for the eastern adjustment area as for the Corn Belt region. The expected decreases are 1 percent in wheat, 2 percent in oats, and 1 percent in corn (table 4). The expected barley acreage is 26 percent above the 1939 acreage. Recently improved varieties of winter barley have stimulated the seeding of this crop in central and southern Indiana, Illinois, and Missouri.

The changes in crop acreages thought to be desirable in the 1943-45 period, as determined by the State committees, show a slightly greater reduction in wheat and oats and a smaller increase in barley acreage than expected. It was estimated that a 1-percent increase in corn acreage would be desirable compared with a 1-percent expected decrease. In the long run wheat, oats, and rye should be decreased still further and corn acreage would be 7 percent below that of 1939.

The upward trend in acreage of soybeans is expected to continue in the eastern adjustment area, with the 1943-45 acreage 21 percent above 1939. This applies to the acreage to be harvested for beans. The desirable short-time increase would be about the same as that expected; but the long-time desirable acreage would be 25 percent below 1939. The committees thought the short-time acreage was too high in the interests of soil conservation.

The expected increases in livestock production, except poultry, in the eastern adjustment area are much less pronounced than in the Corn Belt region as a whole because there is less opportunity for expansion. The expected increases are 4 percent in beef, 6 percent in pork, 5 percent in sheep, 6 percent in milk, and 8 percent in poultry and eggs. The committees believed it desirable that production of beef, pork, and poultry products be stepped up even more than expected in 1943-45 but that milk production be 1 percent below that expected. These desirable adjustments in livestock production from 1939 levels are in accord with the desirable long-time adjustments in the case of sheep, milk, poultry and eggs. But in the case of pork and beef a readjustment to levels of production equal to or below those of 1939 would be desirable.

The long-time adjustments in livestock reflect the changes that will be necessary in cropping systems -- changes to more hay and pasture and less grain crops. Hogs and fat cattle should be decreased, and sheep and dairy cattle should be increased to consume the additional roughage. The long-time upward adjustment in poultry is partly a return to former levels, and in some parts of the eastern

Table 4. - Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

EASTERN CORN BELT ADJUSTMENT AREA.

Item	Unit	1939	1943-15			Estimated acreage or number and production: from 1939	Percentage change: (tentative)	Long-time desirable (tentative)
			Actual (000)	Expected (000)	Desirable (000)			
Number of farms	No.	254	252	252	- 1	- 1	- 1	252
All land in farms	Acres	26,497	26,335	26,335	- 1	- 1	- 1	26,038
Cropland, including plowable pasture	Acres	20,943	20,826	20,826	- 1	- 1	- 1	20,664
Wheat	Acres1/	2,831	2,739	2,702	- 1	- 5	- 5	2,638
	Bu.	51,397	48,451	47,936	- 6	- 7	- 8	47,345
Rye	Acres2/	158	159	157	+ 1	- 1	- 1	130
	Bu.	1,973	2,131	2,103	+ 3	+ 7	+ 12	1,733
Corn, all purposes	Acres1/	5,915	5,855	5,956	- 1	+ 1	+ 4	5,666
	Bu.	309,559	256,660	260,832	- 17	- 16	- 19	249,639
Oats, for grain	Acres1/	1,869	1,834	1,806	- 2	- 3	- 9	1,693
	Bu.	45,478	52,539	51,735	+ 16	+ 14	+ 7	48,512
Barley	Acres1/	78	98	93	+ 26	+ 19	+ 117	+ 50
	Bu.	1,814	2,072	1,990	+ 14	+ 10	+ 2,408	+ 33
Beans (dry edible)	Acres2/	1	1	1	0	0	3/	-
	Pds	11	8	8	- 27	- 27	-	-
Soybeans (for beans)	Acres2/	1,053	1,283	1,279	+ 22	+ 21	794	- 25
	Bu.	21,475	22,502	22,387	+ 5	+ 4	13,899	- 35
Hay, all excluding sorghums	Acres2/	2,915	2,918	2,901	0	0	3,412	+ 17
	Tons	3,950	3,933	3,908	0	- 1	4,537	+ 15
Hay, alfalfa	Acres2/	368	924	924	+ 6	+ 6	1,271	+ 46
	Tons	1,602	1,737	1,737	+ 8	+ 8	2,378	+ 48

Table 4. - Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

EASTERN CORN BELT ADJUSTMENT AREA

Item	Unit	1939	1943-45			Estimated acreage or number and production from 1939	Desirable	Expected	Desirable	Expected	Total	Percentage change (tentative)	Long-time desirable (tentative)
			Actual	Desirable	Desirable								
			(000)	(000)	(000)								
Sorghums, all except sirup	Acres ^{2/}	4:	4:	4:	4:	0	0	0	0	0	0	0	0
Sugar beets	Acres ^{2/}	61:	61:	61:	61:	0	0	0	0	0	0	0	0
Potatoes	Tons	472:	474:	474:	474:	0	0	0	0	0	0	0	0
	Acres ^{1/}	84:	87:	87:	87:	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4
	Bu.	8,566:	9,182:	9,382:	9,382:	+ 7	+ 7	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10
Feed grains 4/	Tons	9,441:	8,078:	8,180:	8,180:	-14	-14	-13	-13	-13	-13	-13	-13
Beef and veal produced - live wt.	Lbs.	612,894:	646,490:	654,643:	654,643:	+ 4	+ 4	+ 6	+ 6	+ 6	+ 6	+ 6	+ 6
Pork produced -	Lbs.	1,919,444:	2,042,580:	2,051,647:	2,051,647:	+ 6	+ 6	+ 7	+ 7	+ 7	+ 7	+ 7	+ 7
Live weight	Lbs.												
Lamb and mutton produced - live wt.	Lbs.	93,260:	97,849:	97,935:	97,935:	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5
Milk cows, 2-yr. old and over Jan. 1	No.	1,120:	1,174:	1,170:	1,170:	+ 5	+ 5	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4
Milk produced	Lbs.	5,081,000:	5,382,000:	5,360,000:	5,360,000:	+ 6	+ 6	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5
Wool shorn	Lbs.	13,028:	13,978:	14,126:	14,126:	+ 7	+ 7	+ 8	+ 8	+ 8	+ 8	+ 8	+ 8
Eggs produced	Doz.	198,824:	215,166:	221,352:	221,352:	+ 8	+ 8	+ 11	+ 11	+ 11	+ 11	+ 11	+ 11
Chickens raised	No.	41,911:	45,271:	46,918:	46,918:	+ 8	+ 8	+ 12	+ 12	+ 12	+ 12	+ 12	+ 12
Chickens produced - live weight	Lbs.	174,755:	186,861:	194,047:	194,047:	+ 7	+ 7	+ 11	+ 11	+ 11	+ 11	+ 11	+ 11
Planted.													
1/ Planted.													
2/ Harvested.													
3/ Less than 500 acres.													
4/ Total of corn, oats, and barley.													

1/ Planted.

2/ Harvested.

3/ Less than 500 acres.

4/ Total of corn, oats, and barley.

Corn Belt, an actual increase above previous levels. A larger poultry enterprise on the smaller farms would help to increase the size of business, which is greatly needed particularly among low-income farmers.

The General Farming Region

The general farming adjustment area includes the southern parts of Missouri, Illinois, Indiana, and Ohio (fig. 1). Generally, the soils are thin, low in productivity, and are highly erosive. A high proportion of the land in farms is in pasture and hay.

There are more "general" farms than any other type throughout this adjustment area. The organization of these farms is built around the livestock enterprise with milk cows as the predominant class of stock. Beef cows and hogs are important and poultry and sheep to a lesser degree. Some general farmers find truck and fruit crops good sources of income. Thus, "general" farms are in reality some other type, but with a low degree of specialization.

Low incomes and small-sized farms are found everywhere. Non-commercial and self-sufficing units are scattered throughout with considerable clustering in the Ozarks of Missouri and the hilly areas of southern Indiana and Ohio.

Under the assumed prices and price relationships, only a 2 percent increase in corn acreage is to be expected for the 1943-45 period (table 5). But during the period, a decrease (3 percent) in corn acreage would be desirable, and during a longer period a greater decrease (14 percent) has been recommended. As in most sections of the Corn Belt, yields in 1939 were above normal.

A decrease from 2,121,000 to 1,897,000 acres is estimated for wheat, the chief cash crop of the area. This 11 percent decrease in acreage will be accompanied by about a 20 percent reduction in production if normal yields are obtained. This decrease in acreage is considered desirable both in the short- and long-time situations.

Some decrease is looked for in acreage and production of oats. However, the acreage devoted to this crop is likely to become stabilized not far below the 1939 base with possibly not more than a 6 or 7 percent reduction.

With prices of soybeans ranging from \$1.50 to \$2 per bushel, a considerable increase in acreage (35 percent) and production (27 percent) of soybeans for grain can be expected. This increase is in line with the estimated short-time desirable expansion in soybean acreage. Over a longer period, a reduction of about 25 percent in acreage is recommended since this crop is particularly hard on the thin rough soils of this area.

Table 5.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

CHILERA FARMING REGION

Item	Unit	1939	1943-45		Estimated acreage or number and production	Percentage from 1939	Desirable	Percentage from 1939	Desirable	Percentage from 1939	Total (DCO)	Percentage change	Long-time desirable (tentative)
			Actual	Expected									
Number of farms	No.	318	315	309	- 2	- 5	- 5	- 3	- 3	- 2	279	- 12	
All land in farms	Acres	35,526	34,439	34,491	- 3	- 3	- 3	- 3	- 3	- 2	33,399	- 6	
Cropland, including: plowable pasture	Acres	21,547	21,151	21,182	- 2	- 2	- 2	- 2	- 2	- 2	20,397	- 5	
Wheat	Acres 1/	2,121	1,897	1,933	- 11	- 9	- 9	- 9	- 9	- 9	1,958	- 9	
Rye	Acres 2/	33,753	36,395	26,911	- 22	- 20	- 20	- 20	- 20	- 20	26,931	- 20	
Oats, for grain	Acres 1/	53	74	87	+ 25	+ 47	+ 47	+ 47	+ 47	+ 47	109	+ 85	
Corn, all purposes	Acres 1/	3,687	3,775	3,587	+ 2	- 5	- 5	- 5	- 5	- 5	1,146	+ 86	
Barley	Acres 1/	123,207	116,116	116,575	- 6	- 10	- 10	- 10	- 10	- 10	99,652	- 19	
Soybeans (for beans)	Acres 2/	1,020	946	993	- 7	- 3	- 3	- 3	- 3	- 3	911	- 11	
Hay, all excluding sorghums	Tons	20,654	21,888	22,936	+ 6	+ 11	+ 11	+ 11	+ 11	+ 11	21,073	+ 2	
											306	+ 128	
											6,473	+ 124	
											1,38	- 25	
											1,861	- 28	
											4,622	+ 17	
											5,135	+ 11	

Table 5.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

GENERAL FARMING REGION

Item	Unit	1939	Actual	1943-45 Estimated			Percentage change from 1939	Expected:Desirable	Total (000) (000)	Percentage (tentative) (000)
				acres and production	desirable	Estimated				
Hay, alfalfa	Acres ^{2/}	306	351	358	18	17			476	456
	Tons	662	737	804	8	18			1,050	54
Sorghums, all except syrup	Acres ^{2/}	126	126	113	0	-10			124	-2
Potatoes	Acres ^{1/}	67	70	77	4	15			107	60
	Bu.	6,093	6,630	7,143	9	17			9,503	56
Cotton	Acres ^{2/}	385	393	393	2	2			392	2
	Bales	427	390	390	9	9			389	9
Feed grains ^{3/}	Tons	3,850	3,737	3,600	3	6			3,282	-15
Beef and veal produced - live wt.	Lbs.	556,722	606,446	598,407	9	7			635,844	14
Pork produced -										
Live weight	Lbs.	720,277	771,892	758,414	7	5			573,517	-20
Lambs and mutton produced - live wt.	Lbs.	69,743	71,706	72,301	3	4			83,594	20
Milk cows, 2-yr.old: and over Jan. 1	No.	1,158	1,246	1,260	8	9			1,393	20
Milk produced	Lbs.	4,334,829	4,825,191	4,896,724	11	13			5,531,566	28
Wool shorn	Lbs.	12,492	13,310	15,210	7	6			14,874	19
Eggs produced	Doz.	194,091	212,380	209,938	9	8			210,315	8
Chickens raised	No.	34,716	37,436	37,171	8	7			39,522	14
Chickens produced - live weight	Lbs.	144,072	154,311	153,123	7	6			165,087	13
^{1/} Planted.										
^{2/} Harvested.										
^{3/} Total of corn, oats, and barley.										

^{1/} Planted.

^{2/} Harvested.

^{3/} Total of corn, oats, and barley.

Farmers are expected to devote additional acres to rye (25 percent) and barley (99 percent) since more satisfactory winter varieties have been developed which provide winter cover, fall and winter pasture, and fairly high yields. In the short- and long-time situations even greater expansion in these crops is desirable. There will be a less than proportional increase in barley production; but the production of rye will be somewhat greater than the comparable increase in the acreage in this crop, since 1939 yields were below the estimated normal. The feed grains, barley, oats, and corn, are expected to decline somewhat in both the short-time and long-time situations.

In the 1943-45 period, no significant change is expected for all hay acreage but a 4 to 5 percent decline in production will result from normal yields. However, the quality of the hay produced will be enhanced by an 8 percent increase in the acreage of alfalfa. This increase could well be doubled in the short period and should be increased 6 or 7 times for the long-time desirable situation.

In Missouri, and to a lesser degree in Ohio, Indiana, and Illinois, lespedeza for hay has made outstanding gains. The acreage in Missouri increased from 140,000 acres in 1937 to 400,000 in 1938; 800,000 in 1939; and 875,000 in 1940. This crop does particularly well on the soils of Missouri which are generally too acid for clover and alfalfa. The upward trend in lespedeza is likely to continue for some years but at a greatly decreased rate.

It is expected that potato acreage and production will be expanded moderately. Considerably greater increases are estimated for the short- and long-time desirable situations.

In view of feed limitations, only very moderate increases from normally low bases are estimated for livestock and livestock products. The increases in pork and beef production are estimated at about 8 percent; mutton and wool 3 and 7 percent respectively; milk cows and milk 8 and 11 percent; poultry and poultry products 7 and 9 percent. In the 1943-45 desirable situation, these estimated increases are maintained substantially except in the case of pork production which is expanded only by 5 percent. The long-time recommendations provide for expanding the production of livestock and livestock products by as much as 6 times the increases expected in the 1943-45 period. Here again pork is the main exception -- a 20 percent reduction is recommended so that corn production will not be unduly encouraged on the erosive soils of the area and so that more roughage-consuming livestock can be kept.

Numerous factors limit the production adjustments in the area. Present and potential feed supplies are limited by the rugged topography and the low fertility of the soils. Wheat and certain specialty crops can compete successfully with the feed-grains for the use of the better soils. Grain yields are generally low.

Normally, an extremely high proportion of all land in farms is in pasture and hay crops, yet the supply of forage is relatively low because of the low-carrying capacity of pastures and the low yields of hay. With feed grains scarce as well, the capacity of the area for livestock enterprises is definitely limited. In many quarters, it is believed that this area is already approaching its optimum production of crops and livestock.

Lack of sufficient labor is a limitation in sections where it is feasible to grow some of the specialty crops, such as cotton, tobacco, tomatoes, melons, and berries, all of which have high labor requirements.

Inadequate transportation facilities and relatively great distances from markets hold down the production of highly perishable livestock products and crops even where physical factors are comparatively favorable.

The attitude of the people is a real consideration in that many of them are satisfied with their present environment. They hesitate to attempt any change from what is customary in their neighborhood. Then, too, many of these farmers do not possess the financial resources nor the credit needed in adjusting their activities to changed conditions.

Southeastern Missouri is distinguished from all other parts of the General Farming region by the fact that here "cotton is king". This is predominantly a cash crops area and will undoubtedly remain so throughout the 1943-45 period or longer. Cotton and corn are grown almost to the exclusion of all other crops.

Undoubtedly, these farmers will grow cotton at least up to their full allotments during the short- and long-time periods. Physical factors favor cotton more than any other crop and yields are high. The harvested acreage of cotton is expected to rise slightly (2 percent) from the 1939 base which is a little low, compared with 1940, but a reduction of almost 10 percent in cotton lint is estimated as normal yields are below those attained in 1939.

The acreage of corn is almost as large as that of cotton. The cotton farm organization is such that corn production fits well the land, labor, and power resources of the area. Here, corn is not associated with livestock to the same degree that it is in the rest of the region. Nevertheless, it is estimated that farmers in southeastern Missouri will and should grow about 10 percent more corn as a cash crop during the 1943-45 period. Such an increase in corn acreage can be expected since cotton prices, quotas, etc., will prevent expansion in that crop. In the long-time desirable situation, corn acreage should not vary much from the 1939 base.

A downward trend in wheat acreage and production is expected to continue throughout the 1943-45 period. Wheat is becoming relatively less attractive than some of the other cash crops and the decline should be accelerated during the emergency period. Wheat production will fall even more rapidly than acreage, as 1939 yields were higher than normal.

Livestock is of little importance in the cotton area. However, small percentage increases over normally low bases are expected.

The Lake States Dairy Region

The Lake States Dairy region consists of Minnesota, Wisconsin, Michigan, northeastern Illinois, and northeastern Ohio, except for a few counties in southwestern Minnesota and Wisconsin and southeastern Michigan which are designated as Corn Belt areas (fig. 1). Dairying is the predominant source of farm income in this region. Milk is marketed for fluid consumption as well as to condenseries, to cheese factories, and to creameries.

Milk cow numbers have been high in almost all parts of the region. The number of dairy cows in Minnesota in 1939 was 5 percent higher than the 1928-32 average. In Wisconsin a 10 percent increase was noted for this period and in Michigan the increase was 15 percent.

Expected Production in 1943-45

An increase of livestock production in the Lake States can be expected in 1943-45 over that in 1939 (table 6). With some sections of the region having no near alternative to dairying and others finding dairying to be their best alternative under the prices assumed it is expected that milk production will increase more than other livestock products. The increase is expected to be 14 percent. It will be brought about in two ways: (1) by an increase in cow numbers and (2) by heavier feeding. Cow numbers are expected to increase 6 percent. Heavier feeding will provide for the balance of the increase in milk production. The trend toward more milk production is greatest in Wisconsin and Minnesota.

Hog production is expected to be 8 percent larger in 1943-45 than in 1939. The greatest increases are expected in Minnesota. Sheep production will increase by approximately 6 percent and poultry production by 9 percent. The largest percentage increase in poultry production is expected in Wisconsin. More unused facilities from former expansions are found in this State than in Minnesota or Michigan.

The recent trend in total crop acreages harvested has been upward. Corn acreage has been consistently above the 1928-32 average since 1935. The increase in corn acreage is expected to take place

Table 6.- Estimated and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

LAKE STATES REGION

Item	Unit	1939	1943-45 Estimated			Percentage change from 1939	Total (000)	Percentage change (tentative)
			Actual (000)	Expected (000)	Desirable (000)			
Number of farms	No.	588	587	586	0	0	582	- 1
All land in farms	Acres	70,404	70,391	70,391	0	0	69,736	- 1
Cropland, including:								
plowable pasture	Acres	42,428	42,623	42,623	0	0	42,831	+ 1
Wheat	Acres 1/	2,607	2,491	2,416	- 4	- 7	2,415	- 7
:Bu.		42,637	41,227	40,073	- 3	- 6	39,743	- 7
Rye	Acres 1/	860	707	667	- 18	- 22	873	+ 2
:Bu.		10,823	10,564	9,936	- 2	- 8	12,408	+ 15
Corn, all purposes	Acres 1/	7,244	7,484	7,813	+ 3	+ 8	7,501	+ 4
:Bu.		295,756	274,578	288,386	- 7	- 2	275,427	- 7
Oats, for grain	Acres 1/	6,561	6,988	6,735	+ 7	+ 3	6,289	- 4
:Bu.		226,807	218,241	209,571	- 4	- 8	195,545	- 14
Barley	Acres 1/	2,633	2,250	2,415	- 15	- 8	2,764	+ 5
:Bu.		58,464	62,399	62,399	- 18	- 13	70,819	- 1
Flaxseed	Acres 2/	833	926	728	+ 11	- 13	797	- 4
:Bu.		7,219	7,963	6,273	+ 10	- 13	6,834	- 5
Beans (dry edible)	Acres 2/	498	712	711	+ 43	+ 43	464	- 7
:Bags		4,857	5,385	5,405	+ 11	+ 11	3,525	- 27
Soybeans (for beans)	Acres 2/	146	189	176	+ 29	+ 21	162	+ 11
:Bu.		2,612	3,298	3,041	+ 26	+ 16	2,817	+ 8
Hay, all excluding sorghums	Acres 2/	11,172	11,467	11,472	+ 3	+ 3	11,712	+ 5
:Tons		15,500	17,159	17,167	+ 11	+ 11	17,749	+ 15

Table 6.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

LAKE STATES REGION

Item	Unit	1939	1943-45			Percentage change from 1939	Expected:Desirable	Total (000) (000)	Percentage change (000)
			acreage or number and production	Estimated	Desirable				
Hay, alfalfa	Acres 2/	3,122	3,433	3,433	3,461	+10	+10	3,685	+18
	Tons 2/	5,447	6,461	6,461	6,461	+19	+19	7,180	+32
Sorghums, all except sirup	Acres 2/	39	37	37	37	-5	-5	37	-5
Sugar beets	Acres 2/	156	157	157	157	+1	+1	185	+19
Potatoes	Tons 1/	1,371	1,239	1,244	1,244	-10	-9	1,469	+7
	Acres 1/	730	703	703	703	-4	-4	754	+3
Feed grains 3/	Bu.	66,641	64,788	64,788	64,788	-3	-3	70,616	+6
	Tons	13,632	12,583	12,926	12,926	-8	-5	12,542	-8
Beef and veal produced - live wt.	Lbs.	1,689,564	1,791,942	1,792,751	1,792,751	+6	+6	1,768,487	+5
Pork produced - live weight	Lbs.	1,731,646	1,864,858	2,012,251	2,012,251	+8	+8	1,735,796	0
Lamb and mutton produced - live wt.	Lbs.	138,450	146,312	146,887	146,887	+6	+6	149,344	+8
Milk cows, 2-yr.old: and over Jan. 1	No.	4,695	4,994	4,999	4,999	+6	+6	5,150	+10
Milk produced	Lbs.	24,791,607	28,352,287	28,541,287	28,541,287	+14	+15	28,451,287	+15
Wool shorn	Lbs.	18,104	19,193	19,271	19,271	+6	+6	19,099	+5
Eggs produced	Doz.	391,827	432,000	431,194	431,194	+10	+10	422,365	+8
Chickens raised	No.	62,640	69,372	68,572	68,572	+11	+9	66,817	+7
Chickens produced - live weight	Lbs.	266,032	289,011	285,655	285,655	+9	+7	280,526	+5

1/ Planted.

2/ Harvested.

3/ Total of corn, oats, and barley.

in counties not now designated as corn counties by the AAA. Since silage capacity is difficult to increase without considerable expense, the increase in corn for grain will be relatively larger than the increase for all purposes.

All tame hay in 1939 was 15 percent above the 1928-37 average acreage and alfalfa acreage showed an increase of 55 percent.

Total production of feed grains is not expected to equal the large crop in 1939, but should be above normal. Corn yields should improve as a result of using better adapted hybrid seed. Hay production will be larger due to more use of alfalfa and clover. Liming and fertilizing are being practiced to a greater extent and these practices will be increased, especially if the active interest of the Government in these improvements is continued. However, if commercial fertilizers should become difficult to obtain, a continued increase in the use of such fertilizers cannot be expected.

The total production of feed grains anticipated in 1943-45 is expected to be 8 percent above the average production in 1928-32 in the three Lake States (table 7). The latter is considerably above the average 1928-37 production. Stocks of grain have accumulated very appreciably. Corn stocks in 1939 were 300 percent above the 1928-32 average. In addition, hay production in 1943-45 is expected to be 36 percent greater than the 1928-32 average and 13 percent above that in 1939. Accordingly, with smaller numbers of horses and some substitution of legume hay for non-legume hay and grain, there should be ample supplies of feed available especially if more efficient methods of feeding are used. If cheap grain is made available for feeding dairy cows, greater production is easily possible. The proportion of corn harvested for grain will likely be larger in some areas where abundant legume hay is available and this brightens the feed situation somewhat.

Desirable Production in 1943-45

The 1943-45 desirable production is not much different from the 1943-45 expected production. The land in the Lake States is devoted chiefly to dairying and this enterprise cannot be expanded as rapidly as many others. Most of the changes in the past have been toward more dairying, and higher prices will only intensify this trend. However, in southern Minnesota, where large quantities of grain are available, hog production can also be increased.

Long-time Desirable Production

The long-time desirable production is largely a continuation of past trends, with larger acreages of feed grains and more pasture and hay than in 1939. Milk cow numbers should be increased about

Table 7.- Production of feed grains and hay, and number of animal units on farms in the three Lake States 1/

Item	Unit	1928-32	1939	1943-45		Long-time
		average		Expected	Desirable	desirable
Feed grains: 2/						
Production	: 1,000 tons	: 13,389	: 16,152	: 14,419	: 14,890	: 14,554
Increase in farm stocks	: 1,000 tons		: 1,195			
Estimated use	: 1,000 tons	: 13,389	: 14,957	: 14,419	: 14,890	: 14,554
Use per grain-consuming animal unit	: Ton	: .88	: .94	: .83	: .84	: .87
All hay:						
Total production	: 1,000 tons	: 12,975	: 15,681	: 17,707	: 17,707	: 18,138
Production per hay-consuming animal unit	: Ton	: 1.49	: 1.66	: 1.74	: 1.74	: 1.81
Number of animal units						
Grain-consuming 3/	: 1,000 units	: 15,208	: 15,973	: 17,369	: 17,808	: 16,671
Hay-consuming 4/: 1,000 units		: 8,729	: 9,452	: 10,158	: 10,185	: 10,011

1/ Minnesota, Wisconsin, and Michigan. (Not the same as the Lake States Region. See figure 1.)

2/ Total of corn, oats, and barley.

3/ Grain-consuming animal units weighted as follows: milk cows, 1.00; other cattle, 0.51; hogs, 0.87; sheep, 0.04; horses and mules, 1.14; chickens, 0.045.

4/ Hay-consuming animal units weighted as follows: milk cows, 1.00; other cattle, 0.75; sheep, 0.12; horses and mules, 1.00.

10 percent and milk production about 15 percent. Minor increases should occur in the numbers of sheep and of cattle raised for beef.

The Lake States Southern Dairy Adjustment Area

Most of the changes indicated for the Lake States dairy region are expected to occur in the southern dairy adjustment area. Most of the commercial farming is done here, whereas farming in the cut-over area is largely self-sufficing.

A 16 percent increase in milk production is expected in 1943-45 over that in 1939, (table 8). This will be provided by a 7 percent increase in cow numbers and heavier feeding. The largest increases in milk production will occur in Wisconsin and Minnesota. Pork and poultry production are expected to increase about 8 percent, mainly in Minnesota. Egg production will probably increase about 11 percent as a result of more hens and better care. Increases in sheep production will occur chiefly in Minnesota and Michigan.

While total feed grain production in 1943-45 is expected to be below the 1939 production, it will be above normal. It should be noted that while the average 1928-32 production has been used for comparative purposes, several years in this average had large harvests. Hay tonnage in 1943-45 is expected to be 10 percent higher than in 1939. The 1943-45 estimates are largely a continuation of past trends and, as previously indicated, the trend has been intensified by favorable price relationships.

The 1943-45 acreage of beans, an important food crop, is expected to be considerably above that in 1939. This is not desirable for the long term, however, because beans are a soil-depleting crop.

The 1943-45 desirable production is practically identical with the expected production except that increased hog production could be undertaken in southern Minnesota where ample supplies of corn will be available. Desirable intra-regional changes could be made as far as soil conservation and farm reorganization are concerned. For example, it is probable that considerable increases in bean production will be made in northwestern Michigan on somewhat light and sandy soil. The desirable situation would be for a greater increase to occur in the Saginaw Valley with little or no change in northwestern Michigan. Similarly poultry production is expected to increase considerably in northwestern Wisconsin in and around Barron County. This area has many facilities for poultry production. Part of the additional feed needed will be grown in the area. However, the soil is not well adapted to more soil-depleting grain crops. Accordingly, the increases in poultry production should be supported largely by shipped-in grain or else carried out in other areas.

In Minnesota, the southeastern counties, because of their topography, are more subject to erosion than other areas in Minnesota.

Table 8.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

UNITED STATES SOUTHERN DAIRY ADJUSTMENT AREA

Item	Unit	1959	1945-45 Estimated acreage or number and production		Expected Desirable (000)	Desirable (000)	Percentage change from 1959		Total (000)	Percentage change (tentative)
			Actual (000)	Desirable (000)			Expected Desirable (000)	Total (000)		
Number of farms	No.	502	501	501	0	0	0	0	499	- 1
All land in farms	Acres	60,971	60,258	60,258	0	0	0	0	60,474	- 1
Cropland, including plowable pasture	Acres	38,915	39,110	39,110	0	0	0	0	39,091	0
Wheat	Acres 1/	2,560	2,444	2,369	- 5	- 7	- 7	2,371	- 7	- 7
Rye	Acres 2/	41,895	40,432	39,278	- 5	- 6	- 6	39,015	- 7	- 7
Corn, all purposes	Acres 1/	828	677	657	- 18	- 25	- 25	636	+ 1	+ 1
Oats, for grain	Acres 1/	10,408	10,165	9,537	- 2	- 8	- 8	11,906	+ 14	+ 14
Barley	Acres 1/	7,024	7,262	7,591	+ 3	+ 8	+ 8	7,278	+ 4	+ 4
Flaxseed	Acres 2/	289,454	268,394	262,202	- 7	- 5	- 5	269,470	- 7	- 7
Beans (dry edible)	Bags	6,257	6,684	6,432	+ 7	+ 5	+ 5	5,947	- 5	- 5
Soybeans (for beans)	Bags	217,367	209,343	200,701	- 4	- 8	- 8	185,613	- 15	- 15
Hay, all excluding sorghums	Tons	13,357	14,674	14,682	+ 3	+ 3	+ 3	15,221	+ 8	+ 8

Table 8.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

LAKE STATES SOUTHERN DAIRY ADJUSTMENT AREA

Item	Unit	1939	1943-45 Estimated			Percentage change from 1939	Desirable (tentative)	Long-time desirable (tentative)
			Actual (000)	Expected (000)	Desirable (000)			
Hay, alfalfa	Acre ^{1/}	2,785	3,086	3,086	3,086	11	11	11
	Tons	4,926	5,786	5,786	5,786	17	17	17
Sorghums, all except sirup	Acres ^{2/}	39	37	37	37	5	5	5
Sugar beets	Acres ^{2/}	152	154	154	154	1	1	1
Potatoes	Acres ^{1/}	1,334	1,202	1,207	1,207	10	10	10
Feed grains 3/	Bu.	628	600	600	600	4	4	4
	Tons	57,663	54,758	54,758	54,758	5	5	5
		13,269	12,232	12,575	12,575	8	8	8
Beef and veal produced - live wt.	Lbs.	1,527,486	1,628,399	1,629,170	1,629,170	7	7	7
Pork produced -	Lbs.	1,685,197	1,818,409	1,965,802	1,965,802	8	8	8
Live weight	Lbs.							
Lamb and mutton produced - live wt.	Lbs.	119,340	126,693	127,326	127,326	6	6	6
Milk cows, 2-yr.old: and over Jan. 1	No.	4,217	4,513	4,518	4,518	7	7	7
Milk produced	Lbs.	22,483,875	25,986,818	26,175,818	26,175,818	16	16	16
Wool shorn	Lbs.	15,993	17,054	17,132	17,132	7	7	7
Eggs produced	Doz.	370,513	410,024	409,218	409,218	11	10	10
Chickens raised	No.	58,852	65,454	64,654	64,654	11	10	10
Chickens produced - live weight	Lbs.	250,815	273,545	270,189	270,189	9	8	8

1/ Planted.

2/ Harvested.

3/ Total of corn, oats, and barley.

Any large increase in corn acreage would aggravate the situation. The same is true for southwestern Wisconsin. In comparison, the land in south central and western Minnesota could grow more corn or soil-depleting crops at less expense to soil conservation.

There are other examples of short-time dislocations, but some disagreement exists regarding their seriousness. Those mentioned have been called to attention as being the most obvious.

The long-time desirable production indicated in table 8 is largely a continuation of past trends. Larger hay production with an accompanying increase in roughage-consuming livestock seems most desirable. These are the enterprises in which most of the farmers in the Lake States have a comparative advantage. They can compete most successfully in dairying and to a lesser extent in other enterprises supplementary to dairy cattle. With minor exceptions, the farmers in this area are most interested in long-time adjustments. Their chief source of income is from an enterprise which cannot be increased or decreased rapidly and which requires a certain skill and a type of investment which can be liquidated only over a long period of time.

The Lake States Cut-Over Dairy Adjustment Area

This area, which consists of the northern parts of Minnesota, Wisconsin, and Michigan, is a cut-over forest area with only limited agricultural development. In several counties less than 10 percent of the land is in farms. Farms are prevailingly small and only a small percentage of the farm land is cropped. Much of the farming is of a subsistence type or is a part-time activity.

Dairying is the principal farm enterprise, but herds are generally small. Hay is the principal crop, occupying more than half of all the cropland. Oats and barley are the most important small grains. The small amount of corn grown is used mainly for silage or fodder. In some localities potatoes, clover seed, and alfalfa seed are rather important cash crops. Not enough feed grain is produced in this area to supply the needs of the livestock kept; a large proportion of the concentrate feed is shipped in from other areas.

The principal obstacles to agricultural development in this area are the difficulties and expensiveness of clearing, stump and stone removal, and breaking of land. Much of the area has very poor natural drainage. While there are numerous small areas of fairly good soils, these are often interspersed among soils of such low productivity as to have little agricultural value.

In periods of industrial depression, settlement in this area is increased by the influx of unemployed or partly employed people from cities in the areas to the south. Such settlers, however, are

temporary and contribute only a negligible quantity of products marketed commercially. In periods of increased industrial activity temporary settlers and large numbers of young people leave this area to find employment in the cities. One effect of the present national defense program on this area has been to stimulate such an exodus of employable persons. However, because of the small size of the farms and the generally small numbers of livestock per farm, the lack of farm labor is not expected to be an obstacle to agricultural production in this area during the national defense emergency.

It is estimated that the acreage of alfalfa in 1943-45 will be about 3 percent larger than the acreage in 1939 (table 9). The acreage of dry edible beans is expected to be 64 percent larger than in 1939. No significant change is expected or deemed desirable in acreages of the other principal crops. Milk production is expected to increase about 3 percent, largely as a result of somewhat heavier feeding of present numbers of milk cows. With the assumed prices of feed grains and butterfat, farmers will find it profitable to buy more concentrates in order to feed more liberally and obtain increased production per cow. It is estimated that lamb and mutton production will be increased about 4 percent and poultry production 2 percent by 1943-45. The expected production of crops and livestock in 1943-45 is in agreement with the desirable production in this area during the defense program.

The principal changes recommended as desirable long-time goals in this area are a slight reduction in number of farms, an increase in cropland per farm, and small increases in the numbers and production of dairy cows and sheep. These recommendations are made with a view to eliminating a number of isolated and submarginal farms and of improving the incomes of families on farms in communities where farming has a chance to succeed. The indicated reduction in number of farms is smaller than the number of isolated and submarginal farms that should be abandoned. It is assumed that many farmers who should be moved will find better farms in agricultural communities within the area. The additional cropland would be used principally to increase the acreage and production of tame hay and of oats and barley for feed. It is estimated that the number of milk cows could be increased 6 percent and milk production 10 percent. Lamb and mutton production would be increased 5 percent and wool 3 percent.

Table 9.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

LAKE STATES CUT-OVER DAIRY ADJUSTMENT AREA

Item	Unit	1939	1943-45			Estimated acreage or number and production	Percentage change from 1939	Total (000)	Percentage change (000)
			Actual	Expected	Desirable				
Number of farms	No.	86	86	85	85	85	- 1	85	- 3
All land in farms	Acres	9,433	9,433	9,433	9,433	9,433	0	0	- 2
Cropland, including plowable pasture	Acres	3,513	3,513	3,513	3,513	3,513	0	0	- 1
Wheat	Acres 1/	47	47	47	47	47	0	0	- 6
	Bu.	742	795	795	795	795	+ 7	+ 7	+ 35
Rye	Acres 2/	32	30	30	30	30	- 6	- 6	- 2
	Bu.	415	399	399	399	399	- 4	- 4	+ 16
Corn, all purposes	Acres 1/	220	222	222	222	222	+ 1	+ 1	+ 21
	Bu.	6,302	6,184	6,184	6,184	6,184	- 2	- 2	- 11
Oats, for grain	Acres 1/	304	304	303	303	303	0	0	+ 12
	Bu.	9,440	8,893	8,870	8,870	8,870	- 6	- 6	+ 5
Barley	Acres 1/	66	65	65	65	65	- 2	- 2	+ 8
	Bu.	1,480	1,513	1,513	1,513	1,513	+ 2	+ 2	+ 12
Flaxseed	Acres 2/	79	79	79	79	79	0	0	- 10
	Bu.	567	707	707	707	707	+ 25	+ 25	+ 13
Beans (dry edible)	Acres 2/	11	18	19	19	19	+ 64	+ 73	+ 9
	Bags	113	145	154	154	154	+ 28	+ 36	+ 28
Soybeans (for beans)	Acres 2/	3	3	3	3	3	-	-	-
	Bu.	3	6	6	6	6	+ 100	+ 100	0
Hay, all excluding sorghums	Acres 2/	1,617	1,640	1,640	1,640	1,640	+ 1	+ 1	+ 3
	Tons	2,143	2,485	2,485	2,485	2,485	+ 16	+ 16	+ 18

Table 9.- Estimated and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

LAKE STATES CUT-OVER DAIRY ADJUSTMENT AREA

Item	Unit	1939	1943-45 Estimated		Percentage change from 1939	Percentage desirable (tentative)	
			Actual (000)	Expected (000)			
Hay, alfalfa	Acres $\frac{2}{4}$	337	347	347	+ 3	+ 3	+ 9
	Tons	521	675	675	+ 30	+ 30	+ 36
Sorghums, all except sirup	Acres $\frac{2}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	-	-	-
Sugar beets	Acres $\frac{2}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	-25	-25	0
	Tons	37	37	37	0	0	+ 5
Potatoes	Acres $\frac{1}{4}$	102	103	103	+ 1	+ 1	+ 2
	Bu.	8,978	10,030	10,030	+ 12	+ 12	+ 14
Feed grains $\frac{4}{4}$	Tons	363	351	351	- 3	- 3	+ 1
Beef and veal produced - live wt.	Lbs.	162,078	163,543	163,581	+ 1	+ 1	0
Pork produced - live weight	Lbs.	46,449	46,449	46,449	0	0	0
Lamb and mutton produced - live wt.	Lbs.	18,810	19,619	19,561	+ 4	+ 4	+ 5
Milk cows, 2-yr. old, and over Jan. 1	No.	478	481	481	+ 1	+ 1	+ 6
Milk produced	Lbs.	2,307,732	2,365,469	2,365,469	+ 3	+ 3	+ 10
Wool shorn	Lbs.	2,111	2,139	2,139	+ 1	+ 1	+ 3
Eggs produced	Doz.	21,314	21,976	21,976	+ 3	+ 3	+ 2
Chickens raised	No.	3,788	3,918	3,918	+ 3	+ 3	+ 2
Chickens produced - live weight	Lbs.	15,217	15,466	15,466	+ 2	+ 2	0

1/ Planted.

2/2 Harvested.

3/4/ Less than 500 acres.
4/ Total of corn, oats, and barley.

SPECIAL PROBLEMS RELATING TO FARM
ORGANIZATION AND MARKETING

Production Problems

Among the varying viewpoints expressed by the various State committees that worked on the adjustments there was uniform opinion that all possible increase in needed production should come first from those farming units which are not now operating at full capacity in the use of their existing equipment. In the dairy area of the Lake States this means adding cows where barn space now exists or utilizing unoccupied space in the cow barn or in the horse barn where horses have been replaced by tractors. In some instances it may be desirable to provide additional space for cows by reducing the number of horses rather than by building additions to the dairy barn. By a limited amount of remodeling of present barns considerable additional space can be provided. The Agricultural Engineering Department at the Wisconsin Experiment Station estimated the unused barn capacity as 25 to 30 percent in Wisconsin. This would be ample for the dairy increase without building new barns.

In the Corn Belt it is believed some increase in inexpensive hog houses will be required for the increases which have been estimated. These additional capital requirements should be relatively small, and if made, the cost should be liquidated within the period of their emergency requirement.

The greatest urge to further mechanization will come from an anticipated or actual shortage of labor. Mechanization in the Lake States will probably take the form of more milking machines on the middle-sized and large dairy farms, and in more general use of tractors and newer forms of haying equipment. As the incentive for greater mechanization comes principally from a prospective shortage of hired labor, it will not necessarily come from the farms that expand the most or confine itself to those enterprises that are expanded. It will come rather from those farms now hiring labor or those on which some of the family labor is no longer available. On many of the smaller farms the slack will be taken up completely by the family.

Much the same situation is likely to prevail in the Corn Belt States. More tractors, corn harvesting machinery and combines will be bought even though additional acres of corn and soybeans are not planted. Naturally the urge will be even stronger if additional acres are planted. The caution that applies to new buildings cannot be given for mechanical equipment. Such equipment may be necessary if the farm is to carry on its usual activities to say nothing of expanding to meet war needs. That the trend is already strongly in that direction is indicated by purchases of farm machinery in 1941.

The most concrete suggestion for individual farmers is that they increase efficiency in production. In the Lake States this would take the form of better care and feeding of dairy herds. While average production per cow is now at a relatively high level, much can still be done to increase the production of cows in the lower half of the production range. More careful husbanding of feed and elimination of wastes, better hay through greater use of legumes, and better pasture and hay yields through the use of lime and fertilizer will aid greatly in bringing about increased production of dairy products.

Corn Belt farmers can increase efficiency through better care and feeding of hogs. Lowering death losses at farrowing time, using vaccination, practicing better sanitation, and taking advantage of improved techniques in feeding and management will result in a considerable increase in production. These things the farmer can do for himself, largely unaided, except for the educational effort necessary to demonstrate how they can be done.

Marketing Problems

If milk production in the United States is to be increased substantially during the next 2 or 3 years, and if most of that increase is to go into cheese and evaporated milk, then there is a marketing problem as well as a production problem. The manufacture of powdered skim milk is largely a byproduct operation of butter and cream plants, but even here the marketing problem is important.

American or cheddar type cheese utilized about 5 percent of the milk produced in the United States in 1938 and evaporated milk (case goods) used about 4 percent. If total milk production were increased 10 percent and one-half of this added volume were to go into cheese and evaporated milk in equal proportions, then the output of cheddar cheese would be increased about 48 percent and evaporated milk 62 percent. Milk is the raw product for a number of different dairy products such as butter, cheese, and evaporated milk. An increase of 10 percent in milk production proportionally distributed among the various dairy manufacturers would probably not burden any of them seriously in either processing or distribution. It is only as the output is disproportionately utilized that there is likely to be any serious strain on present facilities or market organization.

The marketing problem is complicated by the fact that much of the increase in volume is apparently desired in the form of cheese, evaporated milk, and dry skim milk, and that plants equipped to manufacture these products are located mainly in a few States. Six States, although not the same six in all cases, produce about two-thirds of the evaporated milk, about three-fourths of the American or cheddar cheese, and a little less than three-fourths of the dry skim milk.

Wisconsin and New York State are in all three groups. California, Michigan, and Illinois are among the six leading States in the production of two of these products.

The marketing problem in the Lake States region incident to this increased volume may be particularly acute in Wisconsin and perhaps to a somewhat lesser extent in Minnesota, or it may be insignificant, depending upon the form in which the milk is marketed. Wisconsin produces about 50 percent of the cheddar cheese, 33 percent of the evaporated milk, and 25 percent of the dry skim milk in the United States, but it has only 11 percent of the total milk production.

If the desired increase in cheddar cheese, evaporated milk, and dry skim milk is to be apportioned among the States on a plant-capacity basis, then Wisconsin will require some major adjustments in its dairy-plant operations. Under such a condition the State will not only need to put all increased production of milk into cheese and evaporated milk, but will also have to divert some of the present flow of milk from creameries to cheese factories and condenseries. It should be noted that a higher percentage of the butter plants in this State operate as whole-milk creameries than in most other States. The increased demand for dry skim milk will tend to favor such plants as well as cheese and evaporated milk plants. There might be some shifting of milk and cream from fluid-milk markets, but this change will be made reluctantly since both producers and plant proprietors consider such markets as preferable to other types.

In 1938, Wisconsin produced nearly 12 billion pounds of milk. Of this amount, 34.3 percent was used in the manufacture of butter; 32.3 percent in cheese (24.8 percent in cheddar cheese); and 13.4 percent in condensery products (12.5 percent in evaporated milk, case goods). The remaining 20 percent was used on the farms where produced or sold for use as milk, cream, ice cream, or miscellaneous products.

If Wisconsin should increase its total production of milk 10 percent and this increased production were divided equally between cheddar cheese and evaporated milk, then the cheese production would be increased approximately 20 percent and the evaporated milk 40 percent. It is probable that other States will find it easier to divert their additional milk into cheese production than into evaporated milk because of the large initial investment required for condensing and canning operations, and the greater technical skill needed in the operation of these plants. This fact, together with the relatively small number of condenseries (less than 40 with canning facilities), suggests that the principal strain in Wisconsin will come in condensery operations.

The possibilities of increasing the production of dry skim milk in the United States without increasing total milk production are enormous. The output of dry skim milk has increased more than 600 percent since 1925, and more than 50 percent since 1935. Yet, it is

estimated that only 10 billion pounds of skim milk were used in the manufacture of skimmed products in 1938 out of approximately 54 billion pounds of available skim milk. This included casein, cottage cheese, condensed skim milk, etc. The most likely source of additional skim milk for powdering purposes should be a shift from the marketing of farm-separated cream to the marketing of whole milk in the main creamery territories. Some increase would also result from larger sales of fluid cream. Of approximately 33.6 billion pounds of milk skimmed or separated for the sale of butterfat, nearly 11 billion pounds were in Minnesota and Iowa. Wisconsin came next with approximately 2.2 billion pounds. It is to be noted that many of the North Central States are included in the Corn Belt, and skim milk is considered a valuable farm feed in the production of poultry and pork products. Consequently, there will be a demand for skim milk for these purposes, as well as for sale as a commercial product. Skim milk as a livestock feed will probably be of less importance in Wisconsin and Michigan. These two States have a potential additional supply of skim milk for commercial purposes, totaling 3.8 billion pounds. This in itself is sufficient to increase the dry skim milk production something more than 25 percent for the United States as a whole, although it is not to be expected that a complete readjustment will be made.

The marketing problem, as far as plant facilities go, is not one of total plant capacity but rather one of distribution of the plants equipped to manufacture the needed milk products. For example, there is a striking similarity in the areas served by the condenseries and the cheddar-type cheese factories in Wisconsin. The assembling and transportation problem will be found principally in the butter and fluid milk areas of the State.

It would seem desirable that the present emergency should not result in large expansion of dairy plants, but rather that present facilities should be utilized more fully. If the latter is done, the post-war adjustments will be less difficult and costly.

It is believed that even among the condenseries the volume of milk handled could be increased considerably before new plants would have to be built. This possibility is at once evident if one thinks of maximum day-by-day production throughout the year. To bring this about the condenseries would probably have to operate on more than one shift per day and some creameries would have to be used as receiving stations. Developments in this direction appear to be already underway but much more adjustment will be necessary. In view of the wide variation in seasonal production of milk, the maximum use of condenseries throughout the year can be attained only by using other types of plants as receiving stations in slack seasons.

During the peak season of milk production (May, June, and July) the normal patronage area could probably supply all the milk that can be handled by the condensery. During the remainder of the

year, when milk production on farms is lower, the volume at the condensery might be maintained by bringing in milk from a wider area. This would have the effect of reducing the quantity of milk going to creameries in the adjacent territory. The creameries so affected could act as receiving stations.

When a farmer changes over from selling cream to selling whole milk, he needs extra cans, and it is now hard to obtain these cans. If a method like that suggested above is practiced, and a condensery reaches out to new patrons to get milk in seasons of lower production, it could arrange to redistribute available cans as needed.

The seasonality of milk production should also be recognized in connection with planning for increased quantities of dry skim milk, or milk powder. Creameries and other plants with milk drying equipment should be given special encouragement to purchase and process skim milk during the season of heavy milk production. Less emphasis on the production of powdered milk need then be exerted during seasons of lower milk production. This would be very desirable in the case of powdered-milk plants located in the vicinity of condenseries or cheese factories which could use additional milk to advantage in the seasons of lower production.

There were 244 dry skim milk plants in the eight North Central States in 1940. Most of these (186) were located in Wisconsin, Michigan, and Minnesota. There has been some expansion in 1941, especially in plants equipped to dry milk by the spray process.

A further shift from separating milk on the farm to selling whole milk to creameries would seem necessary. Small creameries that are not equipped to receive whole milk will probably find intensified competition. With the increased demand for farm labor it seems probable that there will be a further shift from small creameries and small cheese factories to larger ones, not only because of market opportunities, but because the medium-sized or larger plants are usually in a better position to provide truck service, can washing, and the utilization of byproducts.

Condensery operations will probably be relatively more profitable during this period than will other types of dairy-plant operations. It is important that this advantage be shared with producers so as to encourage a shift of milk to such plants and to stimulate production. It would seem that adjustments, along this line, could be facilitated by the plants themselves, by producer cooperatives, and perhaps even by the Government.

Diversion of milk from creameries to cheese and evaporated milk plants in their vicinity may somewhat ease the pressure on creameries farther away by cutting down the spread between prices of butter and prices of other manufactured dairy products. However, some creameries in Minnesota and Wisconsin will probably need to

consider the advisability of shifting their production unless some form of differential aid is forthcoming to make up their potential losses by continuing as butter producers.

The Government should recognize that dairy plants will find it easier and less expensive to make the adjustments if they can have considerable advance notice, and if governmental purchases are made for specific date of delivery, and on grades, containers, and packages that are now in general use in the trade.

Lease-Lend requirements for eggs have necessitated fuller utilization of egg-drying equipment in this region and a number of new plants are being built.

Another problem along similar lines appears to have developed in the processing phase of canning crops. Processors maintain that inability to secure either contracts for the products or information in advance on grades and prices of products needed, has made it impossible for them to plan ahead for adequate acreage of the crops or to expand their capacity to handle adequately the potential output of their areas. Criticism of this kind has appeared from several States including Missouri, Illinois, and Indiana.

AGRICULTURAL PROGRAM ASSISTANCE IN OBTAINING INCREASES IN PRODUCTION

If market price alone is the stimulant and guide to expansion in production during the defense period, it is probable that not only the soil conservation program will suffer but farmers will again engage in those activities which brought problems after the last war. New debts will be incurred, land prices will rise, and new buildings will be built. Expansion will take place in the poor areas with the consequent danger of their becoming problem areas in the future.

Many suggestions have been received as to how the Government can assist agriculture in the region to produce the commodities required and at the same time forestall or minimize resulting maladjustments. Some of these have already been mentioned in this report. Among these is the suggestion that the purchasing agencies of the Government cooperate with processing plants in a longer term attack on the problems involved. Also the suggestion has been made that the Government take part in assisting the milk processors to redistribute their milk supplies in a way calculated to disrupt least the whole marketing machinery.

Changes to Obtain 1943-45 Estimates

If the estimated quantities of pork, beef, dairy, and poultry products are produced during 1943-45, the ever-normal granary of corn will be depleted unless above-normal yields of corn are obtained during the same period from the estimated acreage, which is slightly above the 1939 acreage. To maintain an ever-normal granary of corn and at the same time obtain large increases in meat production over a period of several years will mean more acres of corn not later than 1945. Production goals for 1942 call for large increases in acreage of soybeans in the Corn Belt. In Illinois, Indiana, and Ohio the same acreage of corn in 1942 as in 1941 plus 1942 goals for soybeans for grain gives a larger combined acreage for these two heavily soil-depleting crops than the 1928-32 average.

One suggested approach to the defense problem of greater production in the Corn Belt and the Lake States in a manner which will minimize the sacrifice to soil conservation and still provide all the foods necessary to meet the emergency is based upon the fact that some areas within these States are better adapted to overuse for the emergency period than are others. Erosion and soil depletion are less likely to develop within these areas than elsewhere. The regional offices of the Soil Conservation Service have prepared a map showing the areas where larger acreages of depleting crops may be grown with relatively least depleting effects to the soil (fig. 2). This map gives the relative priority of location for more soil-depleting crops for the emergency period. In other words, if additional food is required to meet the emergency (which will involve the growing of more soil-depleting crops) it can be obtained with the least sacrifice to soil conservation from the high-priority areas designated on the map. The map is generalized and overlooks intermixtures of the various grades of land within area boundaries. Narrow areas of good bottom land along streams are not shown. Areas are established on the basis of the predominating priority existing in the area.

In addition to setting up priority areas, this proposal would involve changing allotments on a farm-to-farm basis in all areas in a way that would permit farmers who have level lands, capable of heavier temporary use without serious erosion or fertility losses, to plant relatively more corn and soybeans.

Under such a program the farmers occupying high-priority land would be permitted to grow more corn and soybeans whereas farmers on low-priority land would be given higher payments to produce additional quantities of soil-conserving feed crops which would discourage them from growing more corn. This would result in larger total feed supplies from all areas. Such a program of differential changes in acreages of soil-depleting crops in different areas and on different farms probably has possibilities for added soil conservation in the long-time period as well as for the emergency.

The dairy areas will find it increasingly difficult to add to their production as required under the defense program. Present supplies of home-grown feeds are limited and in their purchase of concentrates they are likely to encounter ever-increasing competition both with other dairy areas and with alternative uses for the feed. About the only available method of increasing the home-grown total feed supply is through more and better quality roughage. To bring this about, hay land and pasture fertilization and the use of lime are important. Additional milk supplies could probably be obtained by undertaking a program that would provide phosphate and lime (to some areas, potash) to those who increase their dairy production. The gain would be a double one since it would tend least to disrupt farming in those dairy areas now depending on purchased concentrates.

Changes to Obtain Further Increases

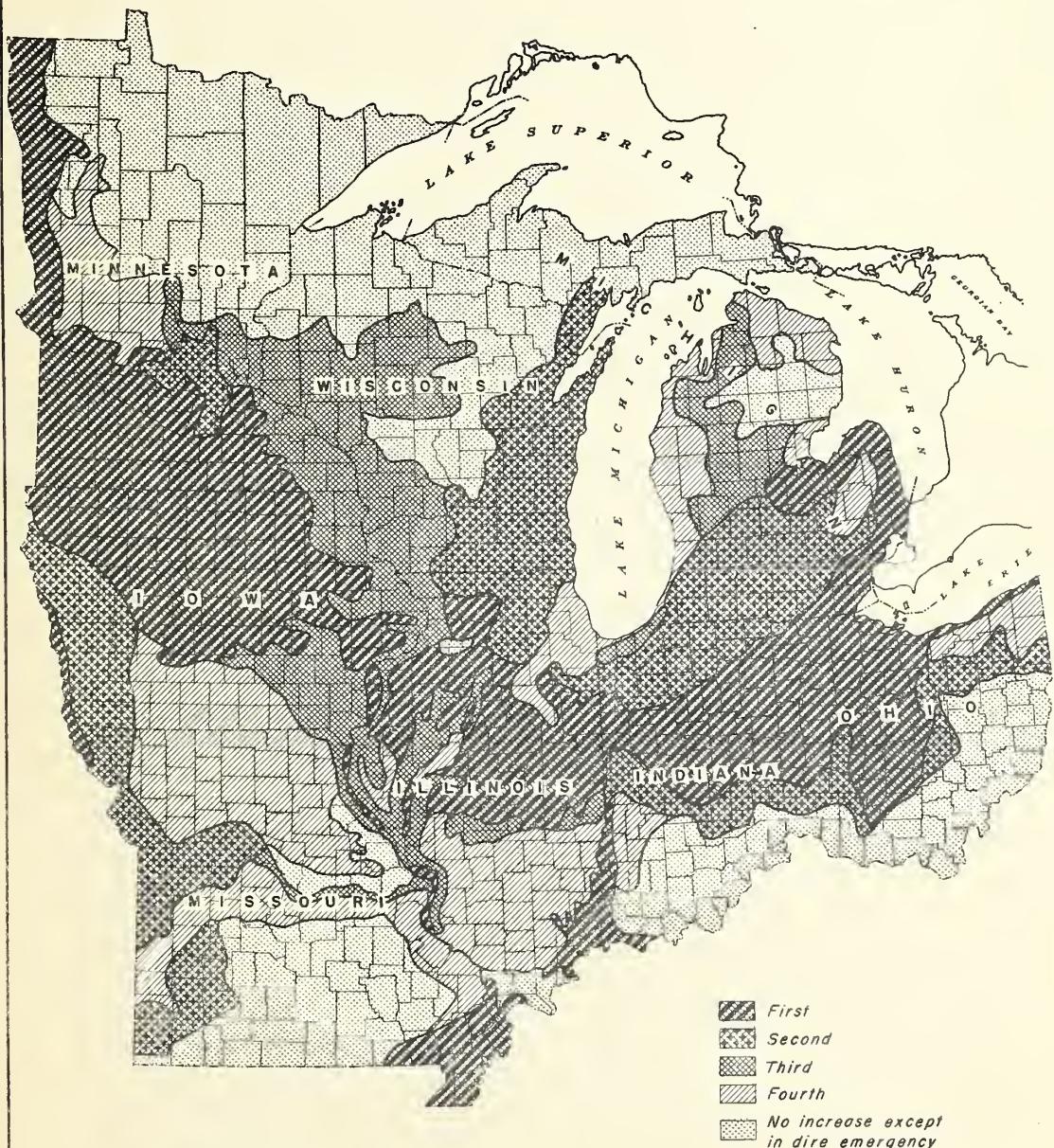
Any considerable increase in quantities of meats and other livestock products beyond the quantities estimated for the 1943-45 period creates the danger of misdirected expansion in these regions, and with it the maladjustments which are so difficult to handle in the later period. This danger is small so long as the increase is confined to quantities that can be produced by existing farm units which make use of production capacities now existing but unused. The danger comes from increases beyond this point and from a maldistribution of production.

It has been suggested, that if progressive increases are needed, agriculture may be able to borrow the technique now being used by other industries in the defense program. Where plant expansion is required to produce war materials, the Government makes special provision to enable manufacturers to liquidate their large investments within a very short period of time. The war business of the company is separated from the regular or normal business and is handled on a separate basis. Prices paid for war materials are sufficiently high to liquidate quickly the investments in new plant and equipment.

In order to apply the same methods to farm products in the Corn Belt and Lake States, a separation of the farmer's production into two categories would be involved. The first would be his regular or normal production to meet normal or near-normal demands. For this part of the farmer's production the ACP would endeavor to bring about a balanced agriculture for the long-time period. Some leeway might be permitted to meet increased domestic demand engendered by the added employment and pay rolls of the defense program, but the limits should be definitely set and rigidly adhered to.

The commodities of this production would flow through regular marketing channels at adequate prices. To assure this, the Government would establish prices and maintain them by adding to market supply or withdrawing from market supplies sufficient quantities of the

CORN BELT AND LAKE STATES
PRIORITY OF AREA FOR ANY NECESSARY INCREASE
IN SOIL-DEPLETING CROPS



REGION THREE

products from a second or "war supply" category. Successful operation of this part of the program would not only maintain normal production on an even keel in the Corn Belt and Lake States but would aid in controlling inflation in food prices as well. It could be put into effect as needed and carried out by the use of allotments, payments, and other machinery now in use. Marketing quotas would probably need to be put into operation.

To meet increased needs for emergency uses the "war supply" would be established. Allotments and contracts for the production of war crops, war hogs, and the like, would be superimposed on the normal allotments for these products. The Government would contract to take those products at whatever price or through whatever arrangements were necessary to get them produced, and they would be taken directly. Since they would not be a part of the regular market supplies they would not be a direct factor in the price structure of normal supply and demand. Allotments and contracts would be made with farmers after consideration of unused capacity to expand (without large new capital investments), of ability to expand without danger of sacrificing soil conservation, and under other regulations tending to prevent long-time maladjustments. If new plant or equipment is required to get additional production, the farmer should be enabled largely to liquidate the investment in a 5-year period.

The supply thus obtained would be used by the Government for export under the Lease-Lend Law and to supply army camps and other defense needs including better diets for the under-nourished. It would also be used to stabilize the market for the normal production and demand.

The advantages of such a program are numerous, both for the Government and for agriculture. Some of these advantages have already been cited. The psychological effect on agriculture, of clearly differentiating normal production from war production, would be to eliminate much of the possibility of a boom in land prices, of incurring large long-time indebtednesses, and of opening up submarginal agricultural lands such as occurred during the last war. It would enable the prevention of overexpansion in agriculture in areas where such expansion was unwarranted and at the same time serve as a vehicle for obtaining desirable long-time shifts in our agricultural industry. The cotton, wheat, and tobacco areas could be given limited aid in making the shift to more desirable agriculture while other areas were prevented from sacrificing all of the gains thus far made in the conservation program. On Corn Belt and Lake States farms, expansion to produce war corn and war hogs would be confined to those farms on which expansion would do a minimum of permanent harm to soils and farms. The Government would benefit through gaining stability. Within the limits of climatic influences definite quantities would be assured of precisely the products required.

Table 10.- Indexes of average prices assumed for 1943-45 in the
Corn Belt and Lake States regions

(1935-39 average price = 100)

Product	Index
Wheat	134
Rye	142
Corn	135
Oats	155
Barley	125
Flaxseed	113
Beans, dry edible	108
Soybeans	125
Hay, all classes	114
Hay, alfalfa	110
Potatoes	123
Hogs	145
Beef cattle	152
Veal calves	163
Sheep	175
Lambs	162
Wool	188
Chickens	133
Eggs	120
Butterfat	138
Milk (wholesale)	137

Table 11.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

FIVE CORN BELT STATES

Item	Unit	1939	1943-45 Estimated acreage or number and production	Percentage change from 1939		Total Desirable (000)	Total Desirable (000)	Percentage change	Long-time desirable (tentative)
				Actual (000)	Expected Desirable (000)				
Number of farms	No.	1,101	1,091	-1	-1	1	1	0	5
All land in farms	Acres	141,631	140,102	-140,153	-140,153	-1	-1	0	2
Cropland, including:									
Plowable pasture	Acres	105,991	105,444	-105,475	-105,475	-1	0	0	2
Wheat	Acres 1/	8,147	7,515	-7,432	-7,432	-8	-9	-1	5
Rye	Acres 2/	143,574	124,280	-122,576	-122,576	-13	-15	-1	2
Corn, all purposes	Acres 1/	29,165	29,414	31,058	31,058	+4	+10	+1	7
Oats, for grain	Acres 1/	1,412,392	1,190,137	1,279,891	1,279,891	-15	-9	-1	7
Barley	Acres 1/	12,941	12,473	11,613	11,613	-4	-10	-1	7
Flaxseed	Acres 2/	347,313	407,320	364,329	364,329	+17	+5	+1	9
Soybeans (for beans)	Acres 2/	1,014	1,119	1,314	1,314	+10	+30	+1	3
Hay, all excluding sorghums	Tons	22,848	28,147	33,108	33,108	+23	+45	+1	57

Table 11.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

FIVE CORN BELT STATES

Item	Unit	1939	1943-45 Estimated			Long-time desirable (tentative)		
			Actual (000)	Expected (000)	Desirable (000)	Total	Percentage change from 1939	Percentage change
Hay, alfalfa	Acres ^{2/}	2,490:	3,018:	3,237:	3,21:	3,30:	4,176:	468
	Tons	5,139:	6,262:	6,738:	6,22:	4,31:	8,624:	68
Sorghums, all except sirup	Acres ^{2/}	459:	459:	429:	0:	7:	432:	6
Sugar beets	Acres ^{2/}	63:	62:	62:	2:	2:	67:	6
	Tons	500:	499:	499:	0:	0:	511:	2
Potatoes	Acres ^{2/}	314:	320:	325:	2:	4:	422:	34
	Bu.	30,867:	32,503:	33,181:	5:	7:	40,586:	31
Cotton	Acres ^{2/}	385:	393:	393:	2:	2:	393:	2
Bales	Bales	427:	391:	391:	8:	8:	391:	8
Feed grains ^{3/}	Tons	45,657:	40,772:	42,465:	11:	7:	38,626:	-15
Beef and veal produced - live wt.	Lbs.	3,702,665:	4,165,309:	4,193,673:	112:	113:	4,225,410:	14
Pork produced - live weight	Lbs.	8,296,534:	9,727,708:	9,946,997:	117:	120:	7,983,326:	-4
Lamb and mutton produced - live wt.	Lbs.	360,870:	379,700:	383,240:	5:	6:	420,204:	16
Milk cows, 2-yr. old: and over Jan. 1	No.	5,204:	5,491:	5,524:	6:	6:	5,842:	12
Milk produced	Lbs.	23,003,000:	24,960,000:	25,290,000:	9:	10:	26,695,000:	16
Wool shorn	Lbs.	48,193:	51,404:	51,779:	7:	7:	55,928:	16
Eggs produced	Doz.	850,495:	947,310:	955,144:	11:	12:	922,619:	8
Chickens raised	No.	170,425:	184,336:	186,223:	8:	9:	185,289:	9
Chickens produced - live weight	Lbs.	727,915:	784,128:	791,802:	8:	9:	789,987:	9

^{1/} Planted.

^{2/} Harvested.

^{3/} Total of corn, oats, and barley.

Table 12.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939

THREE LAKE STATES

Item	Unit	1939	1943-45, Estimated			Percentage change from 1939	Long-time Desirable (tentative)
			Actual	Expected	Desirable		
				(000)	(000)		
Number of farms	No.						
All land in farms	Acres	73,521	73,521	73,521	73,521	0	73,340
Cropland, including:							
plowable pasture	Acres	44,762	44,762	44,762	44,762	0	44,989
Wheat	Acres 1/	2,468	2,352	2,272	2,272	-8	2,273
:Bu.		39,242	37,417	36,206	36,206	-8	36,199
Rye	Acres 2/	884	721	671	671	-24	864
:Bu.		11,242	10,729	9,937	9,937	-12	12,669
Corn, all purposes	Acres 1/	8,324	8,594	9,089	9,089	+9	8,818
:Bu.		349,596	313,659	333,421	333,421	-5	322,639
Oats, for grain	Acres 1/	7,298	7,822	7,448	7,448	+2	6,989
:Bu.		265,376	247,539	234,655	234,655	-12	219,960
Barley	Acres 1/	3,122	2,684	2,899	2,899	-7	3,242
:Bu.		88,170	69,745	74,970	74,970	-15	85,329
Flaxseed	Acres 2/	1,242	1,395	1,034	1,034	-17	1,099
:Bu.		12,419	12,653	9,335	9,335	-25	9,854
Beans (dry edible)	Acres 2/	499	713	713	713	+43	464
:Bags		4,868	5,393	5,405	5,405	+11	3,523
Soybeans (for beans)	Acres 2/	110	164	167	167	+49	145
:Bu.		1,790	2,510	2,546	2,546	+40	2,246
Hay, all excluding sorghums	Acres 2/	11,340	11,676	11,676	11,676	+3	11,743
:Tons		15,681	17,707	17,707	17,707	+13	18,138

Table 12.- Estimated expected and desirable acreage and production of crops, and production of livestock 1943-45, compared with 1939 - Continued

THREE LAKE STATES

Item	Unit	1939	1943-45 Estimated acreage or number and production	Percentage change from 1939		Total (000) : Percentage change
				Expected : Desirable (000)	Desirable : Expected (000)	
Hay, alfalfa	Acres 2/	3,449	3,791	+10	+	4,056: +18
	Tons	6,061	7,220	+19	+	7,965: +31
Sorghums, all except syrup	Acres 2/	44	41	-7	+	41: -7
Sugar beets	Acres 2/	171	172	+1	+	214: +25
	Tons	1,505	1,364	-9	+	1,683: +12
Potatoes	Acres 1/	690	673	-2	+	719: +4
	Bu.	61,901	59,971	-3	+	65,148: +5
Feed grains 3/	Tons	16,152	14,419	-11	+	14,554: -10
Beef and veal produced - live wt.	Lbs.	1,799,625	1,916,482	+6	+	1,890,119: +5
Pork produced - live weight	Lbs.	2,188,005	2,447,186	+12	+	2,261,772: +3
Lamb and mutton produced - live wt.	Lbs.	154,660	163,945	+6	+	167,818: +9
Milk cows, 2-yr. old and over Jan. 1	No.	4,790	5,059	+6	+	5,221: +9
Milk produced	Lbs.	24,873,000	28,300,000	+14	+	28,338,000: +14
Wool shorn	Lbs.	19,206	20,337	+6	+	20,382: +6
Eggs produced	Doz.	391,002	429,463	+10	+	415,797: +6
Chickens raised	No.	63,733	69,407	+9	+	67,543: +6
Chickens produced - live weight	Lbs.	270,847	289,350	+7	+	281,847: +4

1/ Planted.

2/ Harvested.

3/ Total of corn, oats, and barley.

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